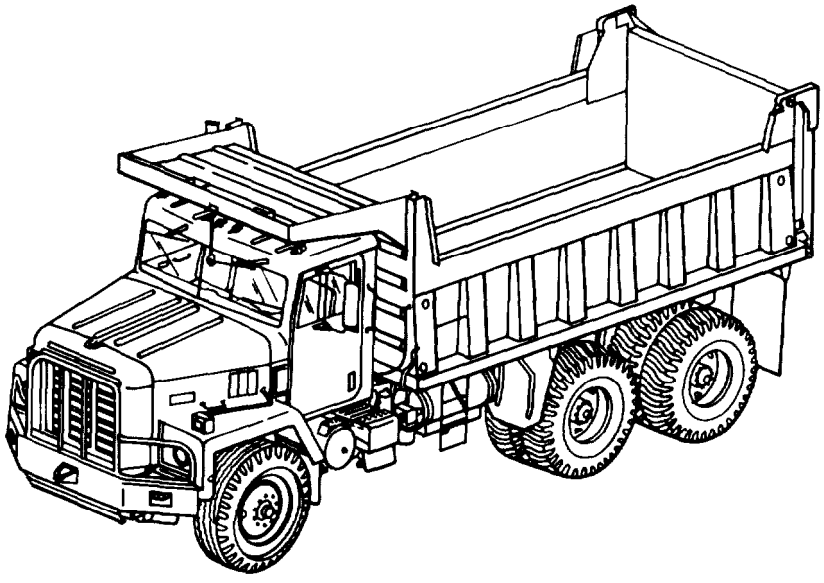
TM 5-3805-254-10

OPERATOR'S MANUAL



TRUCK, DUMP: 20-TON, 6x4, ON-OFF HIGHWAY, 71,000 GVW, IHC MODEL F-5070 (CCE) (NSN 3805-00-192-7249)

JANUARY 1986

HEADQUARTERS, DEPARTMENT OF THE ARMY

CHANGE

NO. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington D.C., *25 February 1993*

OPERATOR'S MANUAL

**TRUCK, DUMP: 20-TON, 6 X 4,
ON-OFF HIGHWAY, 71,000 GVW
(NSN 3805-00-192-7249)**

IHC MODEL F-5070 (CCE)

TM 5-3805-254-10, dated 6 January 1986, is changed as follows:

1. Remove old pages and insert new pages.

2. New or changed material is indicated by a vertical bar in the margin and by a vertical bar adjacent to the TA number.

3. Distribution Restriction Statement is changed to A: Approved for public release, dist. unlimited.

Remove Pages	Insert Pages
cl(d blank)	*c/(d blank)*
i and ii	*i and ii*
1-1 and 1-2	*1-1 and 1-2*
1-5 through 1-14	*1-5 through 1-14*
2-13 through 2-20	*2-13 through 2-20*
2-23 through 2-48	*2-23 through 2-48*
2-53 through 2-56	*2-55 and 2-56*
2-61 and 2-62	*2-61 and 2-62*
2-67 through 2-72	*2-72*
2-77 and 2-78	*2-77 and 2-78*
2-81 and 2-82	*2-81 and 2-82*
3-9 and 3-10	*3-9 and 3-10*
3-31 and 3-32	*3-31 and 3-32*
3-35 and 3-36	*3-35 and 3-36*
A-1/(A-2 blank)	*A-1/(A-2 blank)*
B-1 and B-2	*B-1 and B-2*
D-1 and D-2	*D-1 and D-2*
None	*E-1 through E-6*
Index 1 through Index 13/(lndex 14 blank)	*Index 1 through Index 13/(lndex 14 blank)*

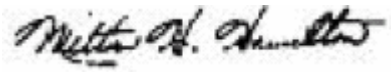
4. File this change sheet in front of the publication for reference purposes.

Approved for public release; distribution Is unlimited.

By Order of the Secretary of the Army:

GORDON R. SULLIVAN
General, United States Army
Chief of Staff

Official:



MILTON H. HAMILTON
Administrative Assistant to the
Secretary of the Army
03705

Distribution:

To be distributed in accordance with DA Form 12-25-E, Block 1969, requirements for TM 5-3805-254-10.

WARNING

EXHAUST GAS CAN KILL YOU

Exhaust gas is without color or smell, but can kill you. Breathing exhaust gas produces symptoms of headache, dizziness, loss of muscular control, a sleepy feeling, and coma. Brain damage or death can result from heavy exposure of exhaust fumes of fuel-burning internal combustion engines. Exhaust gases can become dangerously concentrated under conditions of no air movement. Precautions must be followed to ensure crew safety when the engine of any vehicle is operated for any purpose.

1. DO NOT operate vehicle engine inside building unless ample ventilation is available.

2. DO NOT idle engine for long periods without ventilator blower operating.

3. DO NOT drive any vehicle with inspection plates, cover plates, or engine compartment doors removed unless necessary for maintenance purposes.

4. BE ALERT at all times during vehicle operation for exhaust odors and exposure symptoms. If either is present, IMMEDIATELY VENTILATE personnel compartments. If symptoms persist, remove affected crew to fresh air; keep warm; DO NOT PERMIT PHYSICAL EXERCISE; and, if necessary, give artificial respiration.

5. FOR ARTIFICIAL RESPIRATION, REFER TO FM 21-11.

6. BE AWARE; the field protective mask for chemical-biological-radiological (CBR) protection will not protect you from exhaust gas fumes.

THE BEST DEFENSE AGAINST ENGINE EXHAUST FUMES IS GOOD VENTILATION.

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flash-point for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately. Failure to observe these precautions could cause serious injury or death to personnel.

WARNING

Diesel fuel is combustible. Do not smoke or allow open flames near fuel tanks. Death or serious injury could result if precautions are not followed. If you are burned, seek medical aid immediately.

WARNING

Do not operate dump truck in an enclosed area. Breathing excessive exhaust fumes can kill you. If you begin to feel dizzy or develop a headache, seek medical attention immediately.

WARNING

When checking batteries, do not smoke or use flame in the area. Batteries generate hydrogen, which is highly explosive. Injury or death could result from an explosion.

WARNING

Alcohol is a flammable and combustible liquid. Do not smoke or allow open flames or sparks into areas where combustible materials are used. Death or serious injury could result. If you are burned, seek medical aid immediately.

WARNING

Do not remove radiator cap when engine reaches or exceeds operating temperature, 165° to 195°F (74° to 90°C). To avoid injury, shut down engine and allow radiator to cool before removing cap. Allow engine to cool before filling radiator to avoid damage to engine or injury to personnel.

WARNING

To prevent personal injury, wear seatbelt at all times while operating dump truck.

WARNING

To prevent personal injury from fire or explosion, never use ether when using glow plug to start engine.

WARNING

If air pressure drops below 60 psi (414 kPa), warning buzzer will sound and rear brakes will lock, causing dump truck to come to an abrupt stop, which could cause injury to personnel.

WARNING

To release brakes, 60 psi (414 kPa) air pressure is required, and 90 to 120 psi (621 to 827 kPa) air pressure is needed for normal driving. Low air pressure could cause brakes to lock. Damage to equipment and injury to personnel could result from moving dump truck with low air pressure.

WARNING

Be careful when driving or dumping fully loaded dump truck. Truck could tip over causing injury to personnel and damage to equipment.

WARNING

Do not pump brake pedal unnecessarily to stop dump truck while going slow. This wastes air pressure when you need it most.

WARNING

Be careful of overhead powerlines. Electric shock, injury or death can occur if dump truck body comes in contact with powerlines.

WARNING

Do not use parking brake to stop dump truck. Rear wheels could lock, causing dump truck to skid, injuring personnel and damaging equipment.

WARNING

Do not park dump truck on steep grade. If brakes fail and truck begins to roll, severe injury to personnel and damage to equipment could result.

WARNING

Do not leave dump truck unattended while engine is running.

WARNING

Never carry combustible materials in dump body regardless of position of exhaust diverter. valve. Excessive heat could cause combustible payload to ignite, causing fire and possible injury.

WARNING

Never spread payload with dump truck facing uphill. Dump truck could tip over backwards injuring personnel and causing damage to equipment.

WARNING

To prevent injury, make sure all personnel are clear of dump body before lowering.

WARNING

Prolonged pumping of brakes reduces air pressure, which minimizes brake efficiency. Minimal brake efficiency could cause injury to personnel.

WARNING

Do not remove radiator cap when engine reaches or exceeds operating temperature 1650 to 195°F (740 to 900C). To avoid injury, shut down engine and allow radiator to cool before removing cap. Allow engine to cool before filling radiator to avoid injury to personnel.

WARNING

Do not smoke, place near open flame, or make sparks around battery, especially if vent caps are removed. If battery is gassing, it can explode, causing injury to personnel.

WARNING

Fluid in battery is sulfuric acid solution. Be careful not to drip fluid on yourself or equipment. If fluid spills on you, splash affected areas with water to flush clean. Get medical attention immediately.

TECHNICAL MANUAL
No. 5-3805-254-10

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC *6 January 1986*

Operator's Manual

TRUCK, DUMP: 20-TON, 6 X 4, ON-OFF HIGHWAY, 71,000 GVW, IHC MODEL F-5070 (CCE) (NSN 3805-00-192-7249)

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual directly to: Commander, US Army Tank-Automotive Command, ATTN: AMSTA-MB, Warren, MI 48397-5000. A reply will be furnished to you.

TABLE OF CONTENTS

*This manual supersedes the operator's portion of TM 5-3805-254-14&P-1 and -14&P, 22 August 1980.

TABLE OF CONTENTS - CONTINUED

HOW TO USE THIS MANUAL

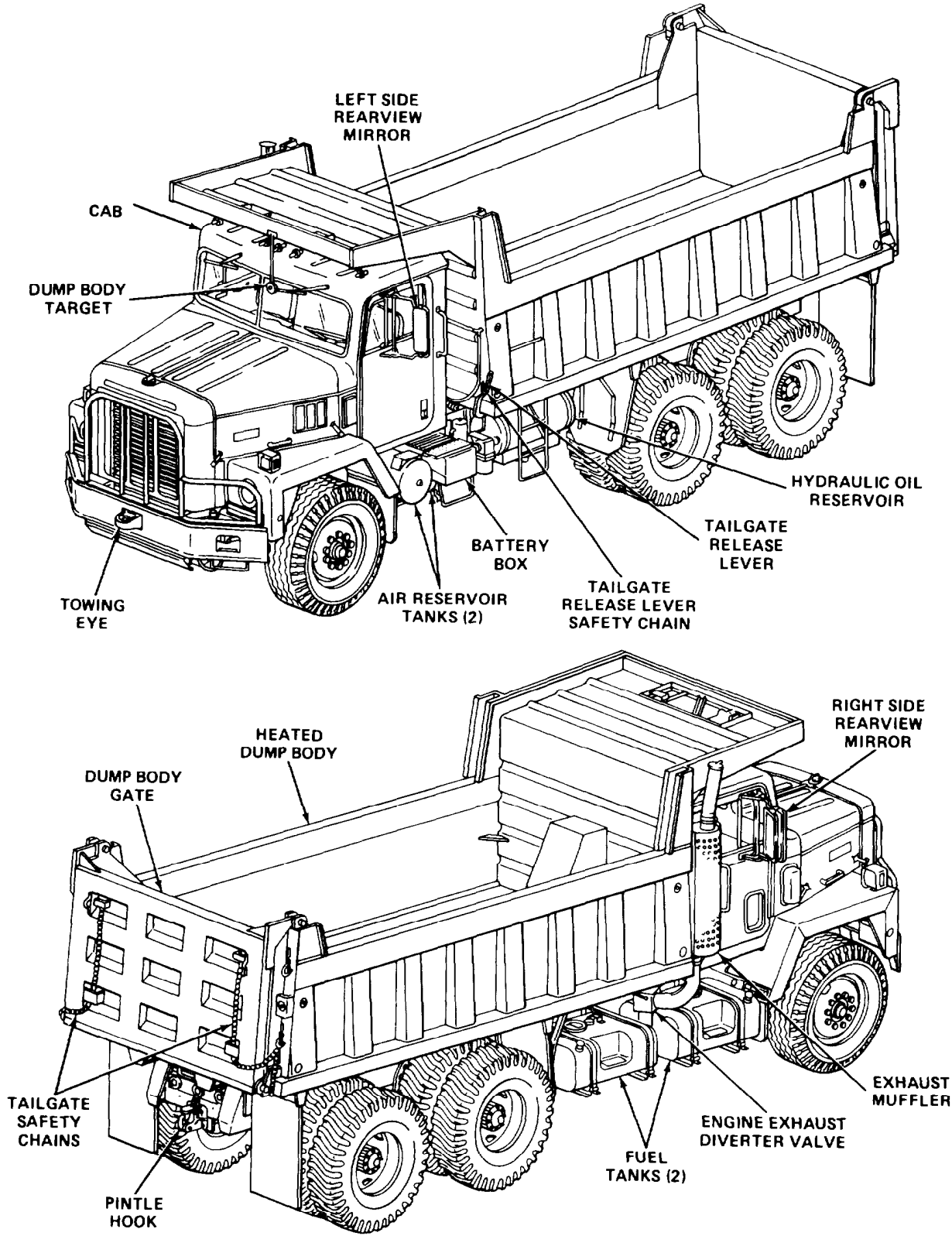
This manual is designed to help you operate and maintain the IHC Model F-5070 (CCE) dump truck. The front cover table of contents is provided for quick reference to important information. There is also an index located in the back of the manual for use in locating specific items of information.

Measurements in this manual are given in both US standard and metric units. A metric to US standard conversion chart can be found on the inside back cover.

Read all preliminary information found at the beginning of each task. It has important information and safety instructions you must follow before beginning the task.

Warning pages are located in the front of this manual. You should read and become familiar with the warnings before operating or doing maintenance on the equipment.

A subject index appears at the beginning of each chapter listing sections that are included in that chapter. A more specific subject index is located at the beginning of each section to help you find the exact paragraph you're looking for.



Truck, Dump: 20-Ton, 6X4, On-Off Highway, 71,000 GVW, IHC Model F-5070 (CCE)

TA234376

CHAPTER 1

INTRODUCTION

OVERVIEW

This chapter provides information on forms and records that are referred to during operation and maintenance of the dump truck. It also identifies and describes major components and systems of the dump truck.

Section I. GENERAL INFORMATION

SCOPE

Type of Manual: Vehicle Operation and Operator's Maintenance Manual.

Model Number and Equipment Name: IHC Model F-5070 (CCE), Truck, Dump, 20-Ton, 6 x 4, 71,000 GVW, On-Off Highway.

Purpose of Equipment: On-off highway vehicle used for transporting material for the construction/rehabilitation of roads, airfields, ports, and beach and marine facilities, worldwide.

MAINTENANCE FORMS AND RECORDS

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-750, The Army Maintenance Management System (TAMMS).

HAND RECEIPT (HR) MANUALS

This manual has a companion document with a TM number followed by -HR, which stands for hand receipt. TM 5-3805-254-10-HR consists of preprinted hand receipts (DA Form 2062) that list end item related equipment (ie, COEI, Bll, and AAL) that you must account for. As an aid to property accountability, additional HR manuals may be requisitioned from the following source: The US Army Adjutant General Publications Center, ATTN: AGLD-OD, 2800 Eastern Blvd., Baltimore, MD 21220.

EQUIPMENT IMPROVEMENT REPORT AND MAINTENANCE DIGEST (EIR MD)

The quarterly Equipment Improvement Report and Maintenance Digest, TB 43-0001-39 series, contains valuable field information on the equipment covered in this manual. The information in the TB 43-0001-39 series is compiled from some of the Equipment Improvement Reports that you prepared on the vehicles covered in this manual. Many of these articles result from comments, suggestions, and improvement recommendations that you submitted to the EIR program. The TB 43-0001-39 series contains information on equipment improvements, minor alterations, proposed Modification Work Orders (MWO's), warranties (if applicable), actions taken on some of your DA Form 2028's (Recommended Changes to Publications), and advance information on proposed changes that may affect this manual. The information will help you in doing your job better and will help in keeping you advised of the latest changes to this manual. Also refer to DA PAM 25-30, Consolidated Index of Army Publications and Blank Forms, and appendix A, of this manual.

REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

If your dump truck needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know what you don't like about the design or I performance. Put it on an SF 368 (Product Quality Deficiency Report). Mail it to: Commander, US Army Tank-Automotive Command, ATTN: AMSTA-MP, Warren, Ml 48397-5000. We will send you a reply.

Section II. EQUIPMENT DESCRIPTION AND DATA

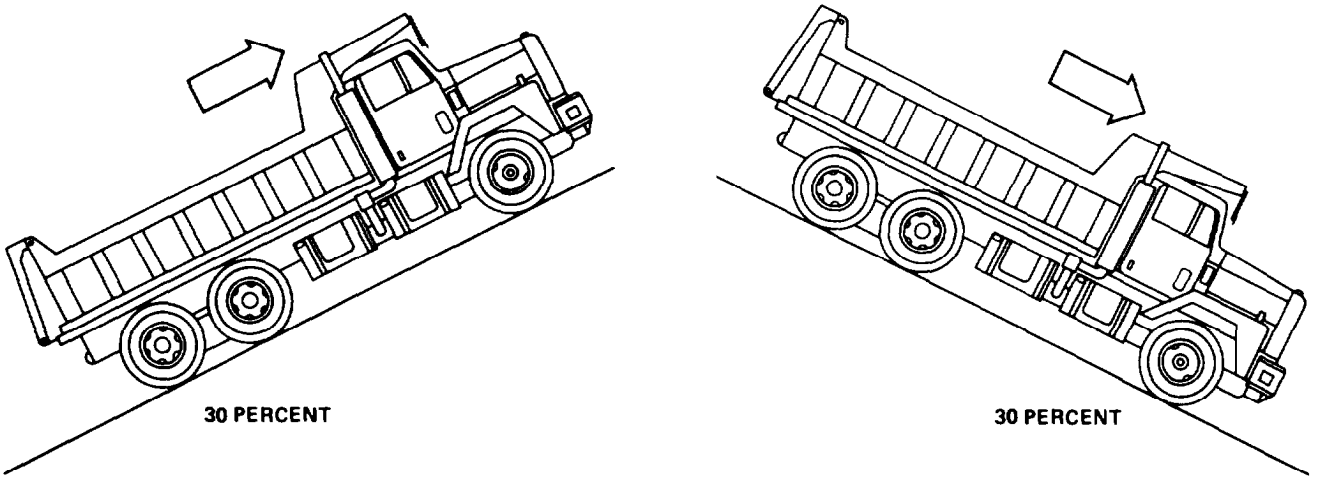
EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES

CHARACTERISTICS AND FEATURES

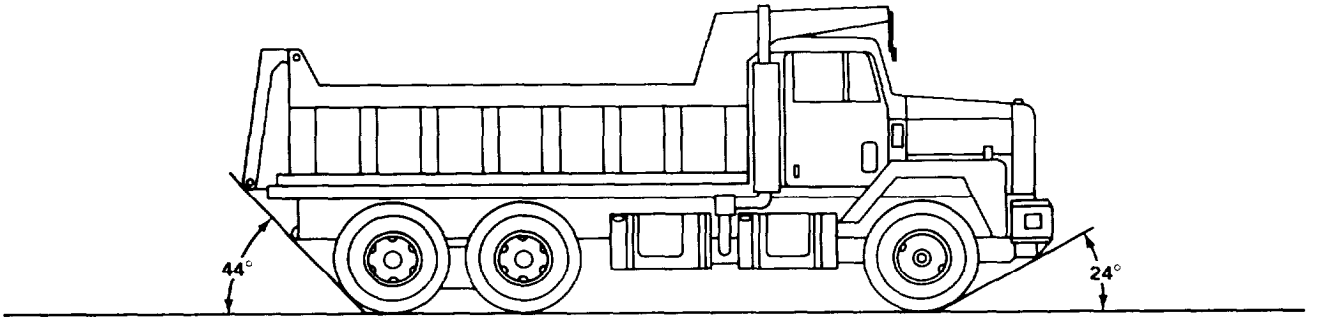
Diesel engine powered
Six-cylinder turbocharged engine
Five-speed automatic transmission
Three-speed auxiliary transmission
Rear axles power divider
20-ton carrying capacity
Hydraulically operated dump body
Fail-safe airbrake system
Heated dump body

EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES - CONTINUED

CAPABILITIES



Fully loaded, the dump truck can stop and restart while ascending or descending a 30-percent grade.



Fully loaded, the ground clearance ramp angle of approach is 24 degrees. The ramp angle of departure is 44 degrees.

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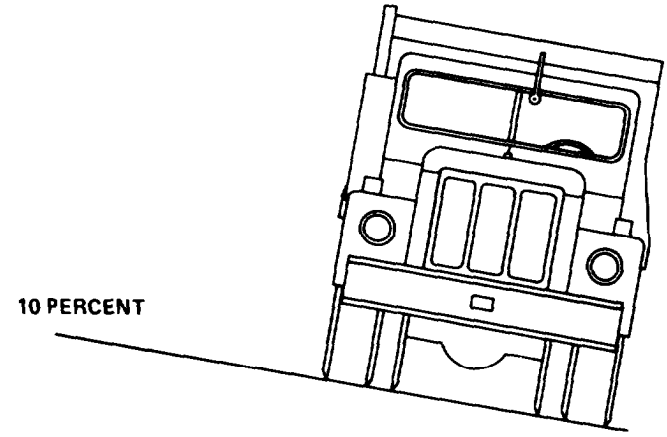
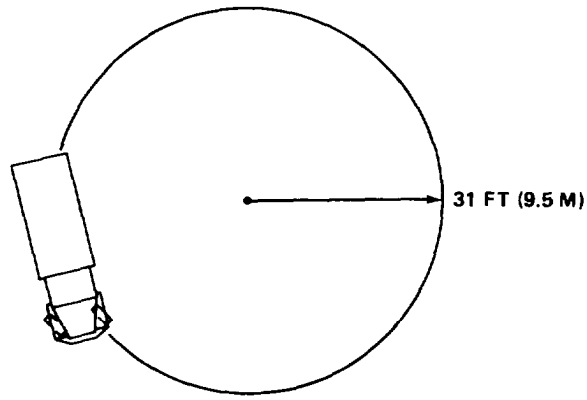
EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES - CONTINUED

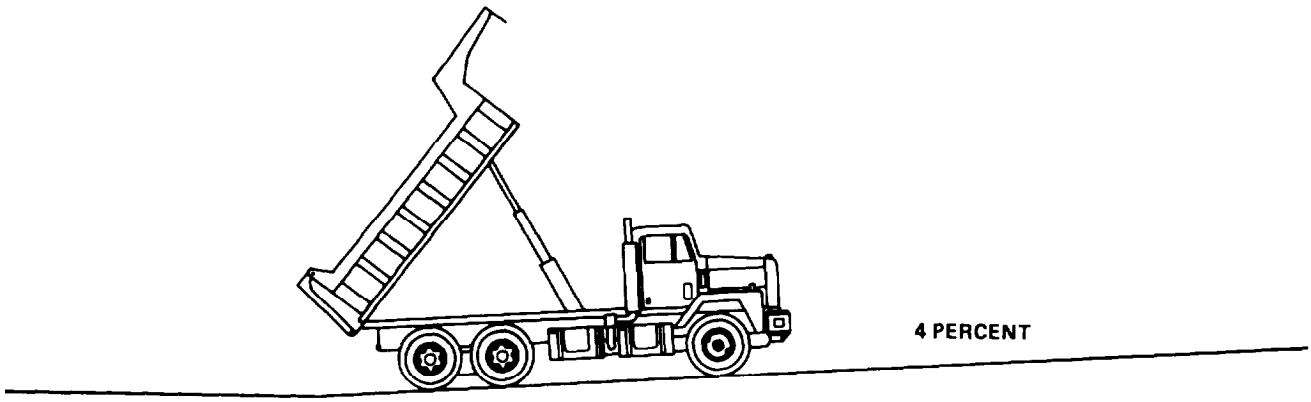
CAPABILITIES - CONTINUED



Fully loaded, the dump truck can travel on a side slope up to 10 percent on a good, nonslip surface.



The minimum turning radius of the dump truck is 31 feet (9.5 m).



When stationary with parking brake applied, the dump truck can dump on a longitudinal grade up to 4 percent (front wheels 8 inches (20.3 cm) above tandem rear wheels).

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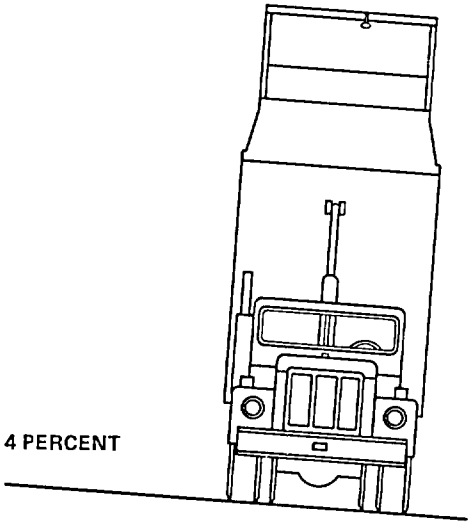
EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES - CONTINUED



When stationary with parking brake applied, the dump truck can dump on a side slope up to 4 percent (one side of the tandem rear wheels 3 inches (7.6 cm) above the other side).

The dump truck can dump in a fixed location, as in stockpiling, or dump during a slow forward travel, as in roadbed spreading.

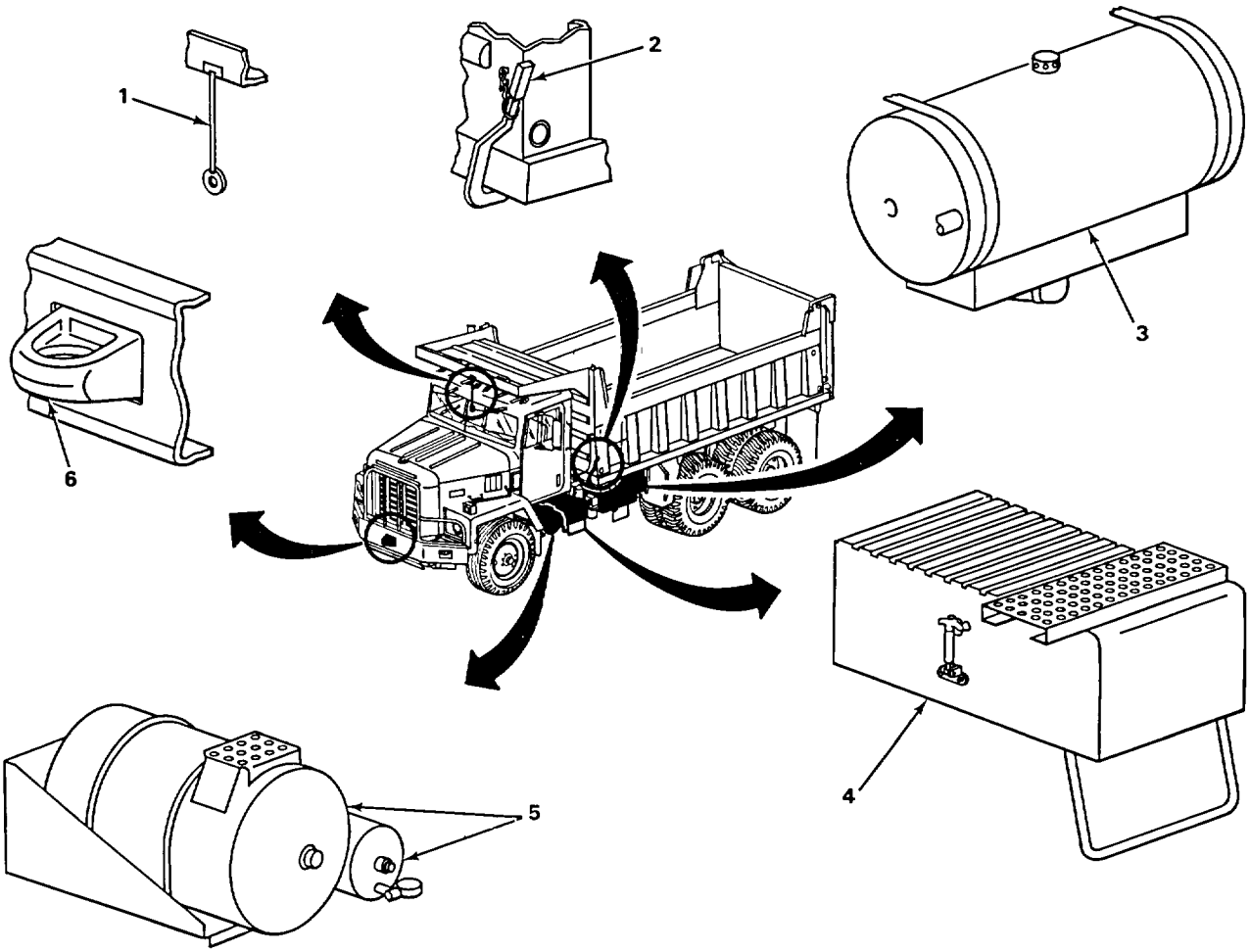
Fuel Capabilities

The dump truck can perform short-haul, 3-mile (4.8 km), dumping cycles on secondary roads for at least 10 hours without refueling.

The dump truck can perform long-haul dumping on secondary roads at a sustained average speed of 40 mph (64 km/h) for at least 200 miles (321.8 km) without refueling.

TA234379

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS



EXTERIOR

KEY	COMPONENT	DESCRIPTION
1	Dump Body Target	Indicates when dump body is fully lowered.
2	Tailgate Release Lever	Unlocks tailgate when dumping payload.
3	Hydraulic Oil Reservoir	Provides storage for 40 gallons (151.4 l) of hydraulic oil.
4	Battery Box	Holds four 6-volt batteries.
5	Air Reservoir Tanks	Provide storage for compressed air.
6	Towing Eye	Coupling point for use when towing this vehicle.

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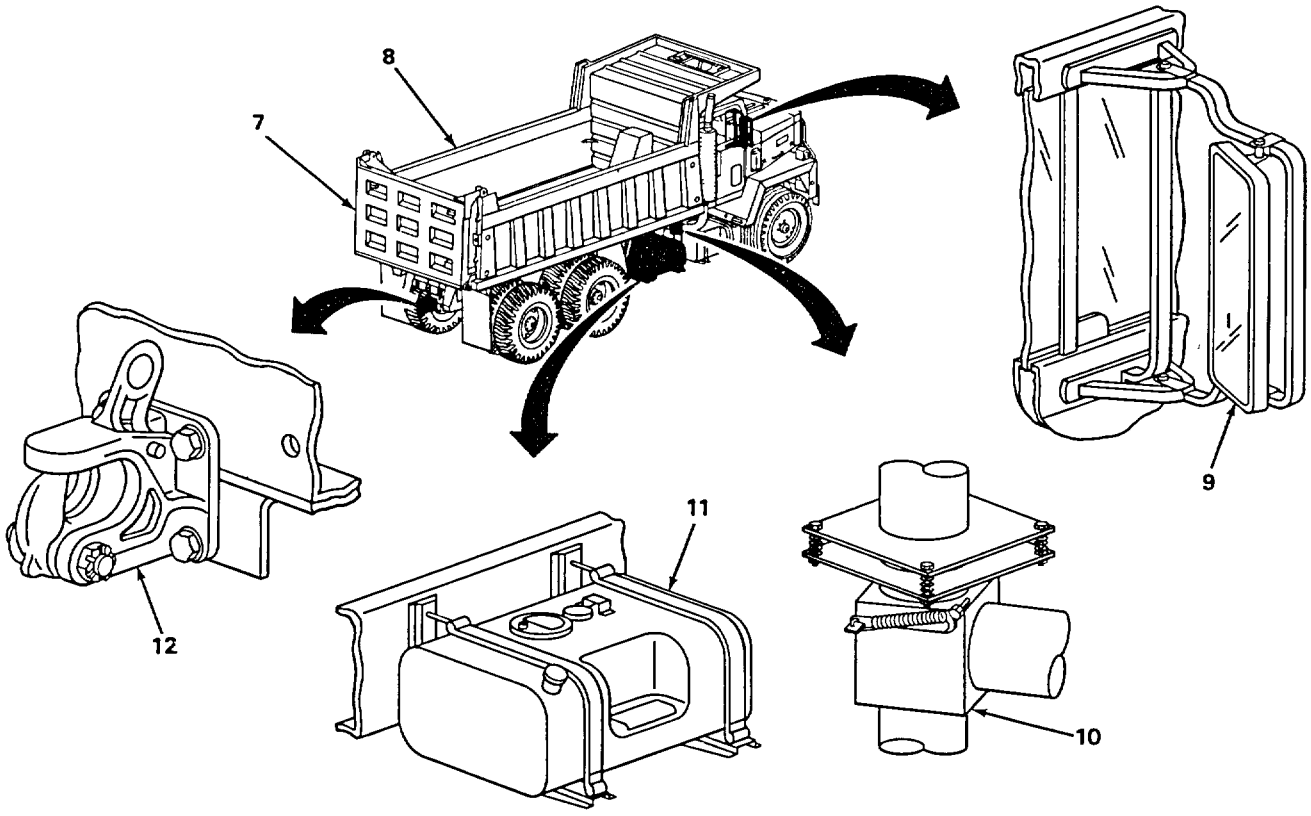
LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - CONTINUED

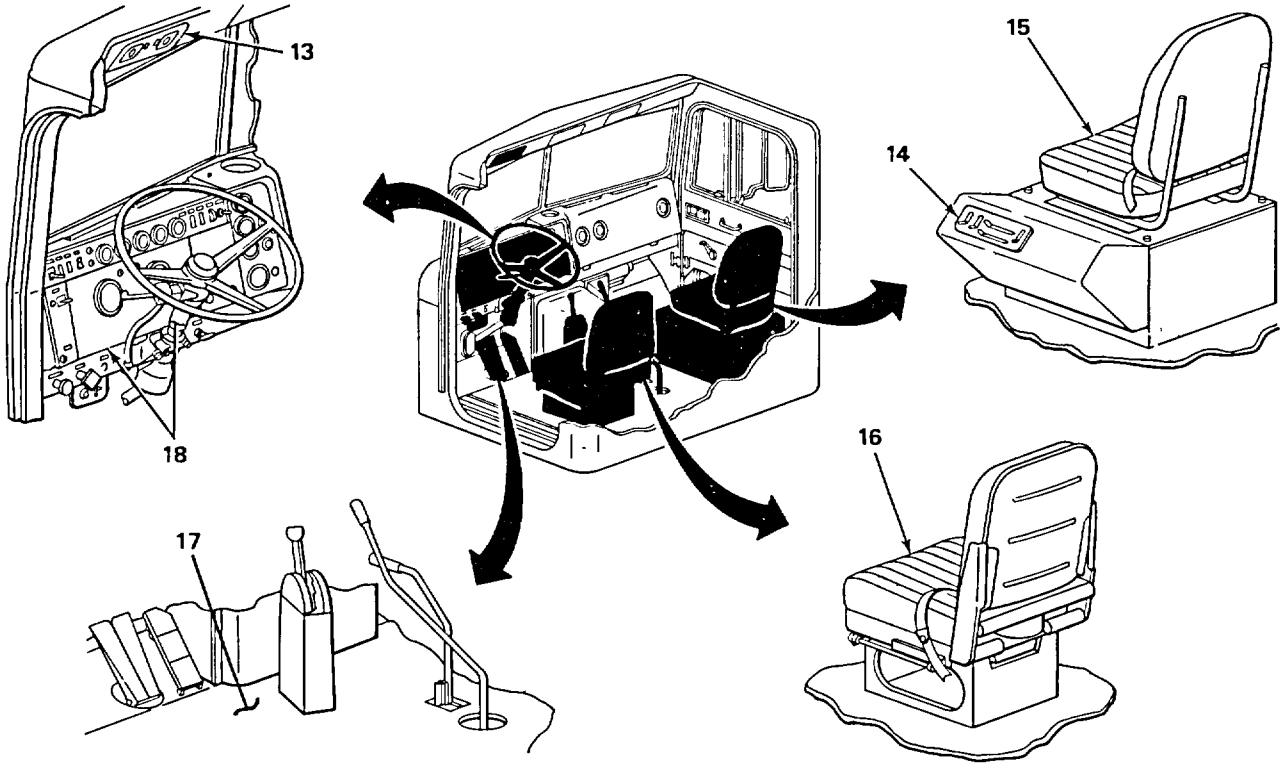


EXTERIOR

KEY	COMPONENT	DESCRIPTION
7	Tailgate	Retains or permits payload to be dumped from dump body.
8	Dump Body	Holds payload and can be raised and lowered hydraulically.
9	Rearview Mirrors	Provide operator with vision toward rear of vehicle.
10	Exhaust Diverter	Permits exhaust gases to be directed to dump body to keep payload from freezing.
11	Fuel Tanks	Provide storage for 50 gallons (189.3 l) of diesel fuel.
12	Pintle Hook	Coupling point for towing other vehicles.

TA702192

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - CONTINUED



INTERIOR

KEY	COMPONENT	DESCRIPTION
13	Overhead Panel Controls	Provide windshield wiper and washer controls.
14	Heater Box	Provides heated air to cab.
15	Passenger's Seat	Provides seating for vehicle's passenger.
16	Operator's Seat	Provides adjustable, shock absorbing seating for vehicle operator.'
17	Cab Floor Mounted Controls	Include accelerator and brake pedals, transmission and auxiliary transmission shift levers, and dump body control lever.
18	Steering Column and Instrument Panel Controls	Include switches, indicators, and hand-operated controls.

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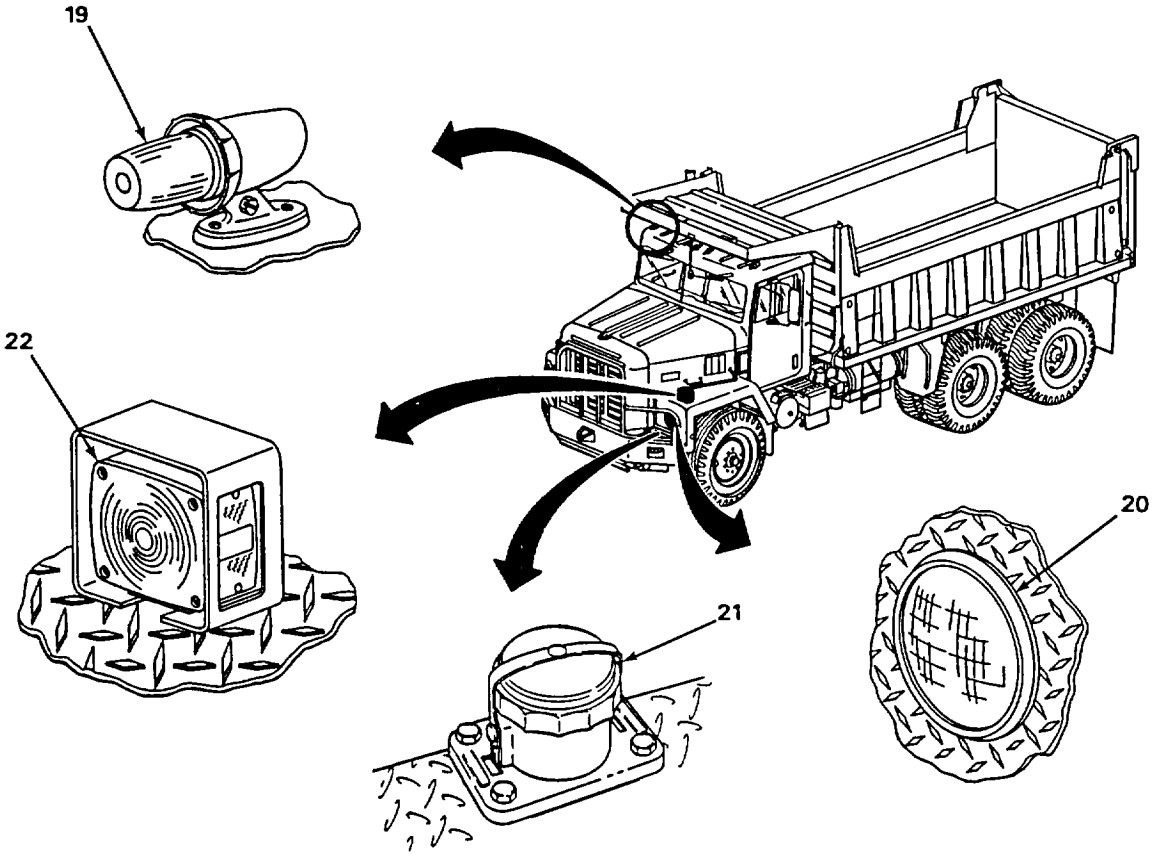
LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - CONTINUED

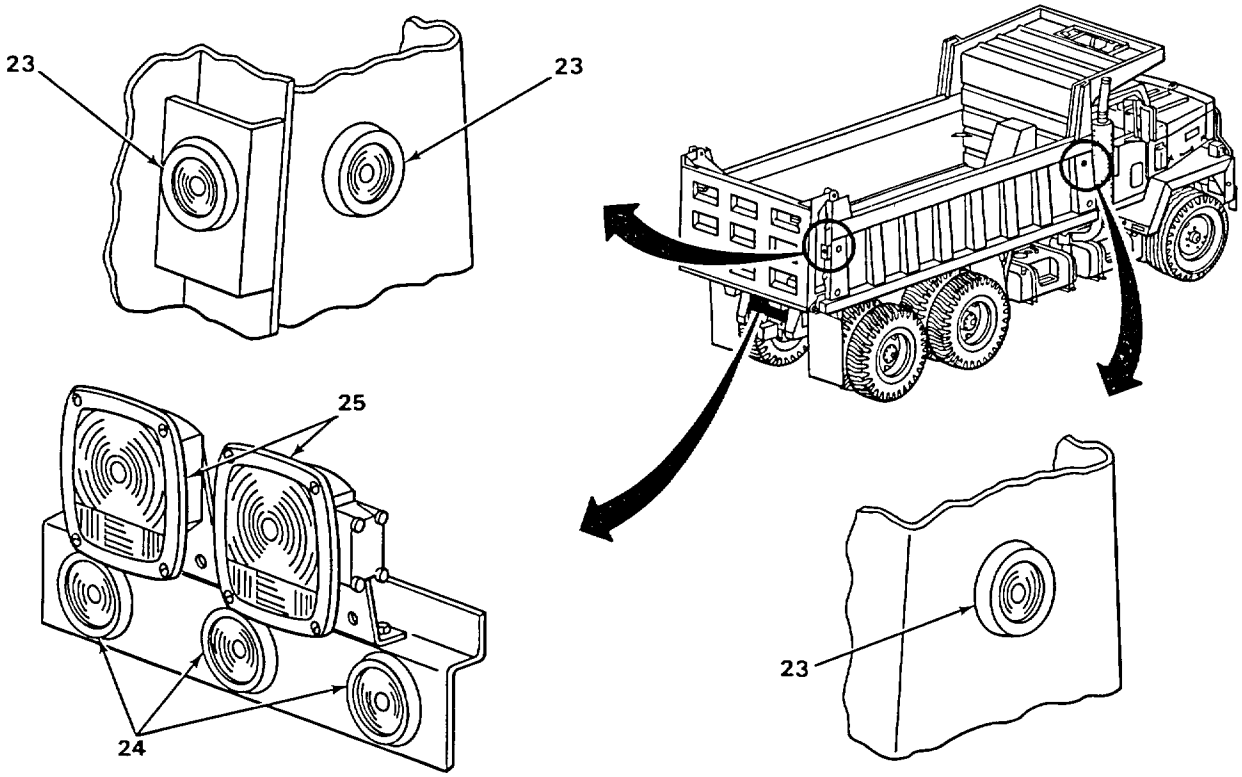


EXTERIOR LIGHTS

KEY	COMPONENT	DESCRIPTION
19	Front Marker Lights	Amber colored lights to indicate height of vehicle.
20	Headlights	Provide source of illumination in front of vehicle when driving at night.
21	Slave Receptacle	Supplies electrical power through jumper cables to start engine of another vehicle.
22	Front Turn Signals	Provide visual indication that vehicle is turning. Both flash to indicate an emergency situation.

TA702194

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - CONTINUED.



EXTERIOR LIGHTS

KEY	COMPONENT	DESCRIPTION
23	Dump Body Marker Lights	Red and amber colored lights to indicate size of dump body.
24	Rear Marker Lights	Red lights to indicate rear of vehicle.
25	Stoplight/Turn Signal/ Taillight/Backup Light	Lights to indicate when brakes are applied, vehicle is turning, rear of vehicle, and when transmission is in reverse position.

EQUIPMENT DATA

Equipment and performance data for the dump truck and major components are listed In tabular format on the following pages. All weights and dimensions are approximate.

TA702195

EQUIPMENT DATA - CONTINUED

Make	International Harvester Corporation
Model	F-5070

DIMENSIONS

Length	322 in. 8.2 m)
Width	101 in. (2.6 m)
Height	125 in. (3.2 m)
Ground clearance	10 in. (25.4 cm) minimum
Wheelbase	184 in. (4.7 m)

WEIGHTS

Curb weight	31,000 lb (14,074 kg)
Gross vehicle weight rating (GVWR)	71,000 lb (32,234 kg)

WEIGHT DISTRIBUTION

Front axle	
Empty	12,700 lb (5766 kg)
Fully loaded (GVWR)	18,000 lb (8172 kg)
Tandem rear axle assembly	
Empty	18,300 lb (8308 kg)
Fully loaded (GVWR)	53,000 lb (24,062 kg)

PERFORMANCE

Cruising range at GVWR with 100 gallons (387.5 liters) fuel	at least 200 miles (322 km) on highways
Fording depth	21 in. (53.3 cm)

EQUIPMENT DATA - CONTINUED

Minimum turning radius	31 ft (9.5 m)
Climatic operating temperatures	- 25°F (- 32°C) to + 120°F (49°C)

CAPACITIES

Engine oil	37 qt (35 liters) (includes 14 qt (13.2 liters) for auxiliary oil filter)
Fuel tanks	100 gal (378.5 liters)
Tandem rear axle assembly	
Front, rear axle	30 pt (14.2 liters)
Rear, rear axle	28 pt (13.2 liters)

ENGINE

Make	Cummins
Model	NTC-290
Type	Four-stroke, turbocharged diesel
Cylinders	6
Stroke	6 in. (15.2 cm)
Maximum	horsepower 290 at 2100 rpm

FUEL SYSTEM

Type	fuel Diesel
Type	fuel system Diesel fuel injection
Fuel tank	quantity 2
Fuel tank capacity	50 gal (189.3 liters) per tank, 100 gal (378.5 liters) total

EQUIPMENT DATA - CONTINUED

ELECTRICAL SYSTEM - CONTINUED

Circuit breakers	
Type	Manual reset
Quantity	1
Batteries	
Quantity	4

TRANSMISSIONS

Main transmission	
Type	Automatic
Number forward speeds	5
Number reverse speeds	1
Auxiliary transmission	
Type	Manual
Number of ranges	3 forward

MAXIMUM SPEED WITH EACH GEAR COMBINATION

Main Transmission Shift Lever Position	AUXILIARY TRANSMISSION SHIFT LEVER POSITION		
	(U.D.) UNDERDRIVE	(D.) DIRECT DRIVE	(O.D.) OVERDRIVE
1	4 mph (6.4 km/h)	10 mph (16.1 km/h)	13 mph (20.9 km/h)
2	7 mph (11.3 km/h)	16.5 mph (26.5 km/h)	22 mph (35.4 km/h)
3	8.5 mph (13.7 km/h)	20.5 mph (33 km/h)	27 mph (43.4 km/h)
4	10.5 mph (16.9 km/h)	25.5 mph (41 km/h)	33.5 mph (53.9 km/h)
D	13 mph (20.9 km/h)	31.5 mph (50.7 km/h)	42 mph (67.6 km/h)
R	1.5 mph (2.4 km/h)	4 mph (6.4 km/h)	5.5 mph (8.8 km/h)

BRAKE SYSTEM

Actuation	Air/Mechanical
Spring brakes	4 (one at each wheel of tandem rear axle assembly)
Operating pressure range	90 to 125 psi (620.6 to 861.9 kPa)
Engine brake	Engine compression brake

EQUIPMENT DATA - CONTINUED

PINTLE HOOK

Type	Manual release
Rated capacity	12,000 lb (5448 kg)

CAB

Type	2-passenger steel assembly with cab protector

DUMP BODY

Type	Exhaust gas heated steel dump body
Actuation	Hydraulic lift cylinder
Maximum	dump body angle 50 degrees
Maximum capacities (up to GVWR)	15 cu yd (11.5 cu m) heaped;
	12 cu yd (9.2 cu m) struck (water level)

CHAPTER 2

OPERATING INSTRUCTIONS

OVERVIEW

This chapter shows and describes dump truck controls and indicators and contains operator/crew level preventive maintenance procedures. Basic instructions are included for starting, moving, and stopping the truck in both usual and unusual conditions. There are also guidelines and information that will help you understand and better operate the dump truck.

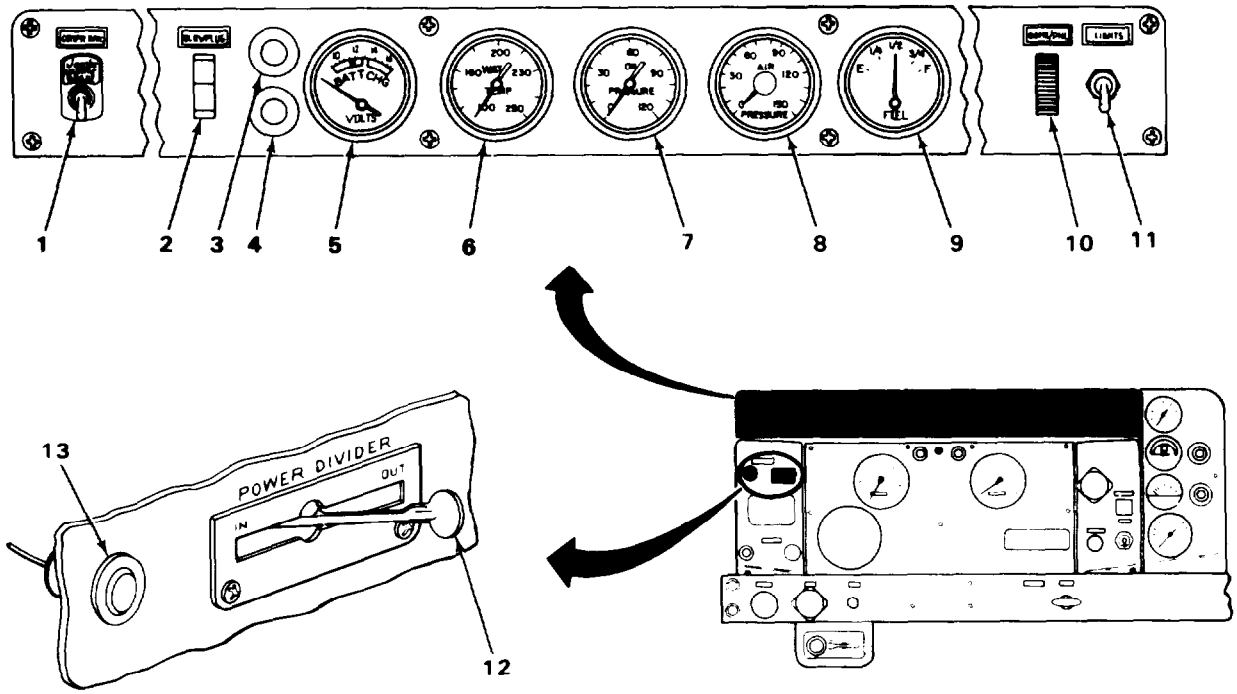
Section I. DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS

GENERAL

This section shows the locations and describes the functions and uses of controls and indicators used in operating the dump truck.

You should know the location and understand the proper use of every control and indicator on the dump truck. Use this section to learn or refresh your memory about each of the controls and indicators you will be using during all phases of your truck's operation.

INSTRUMENT PANEL



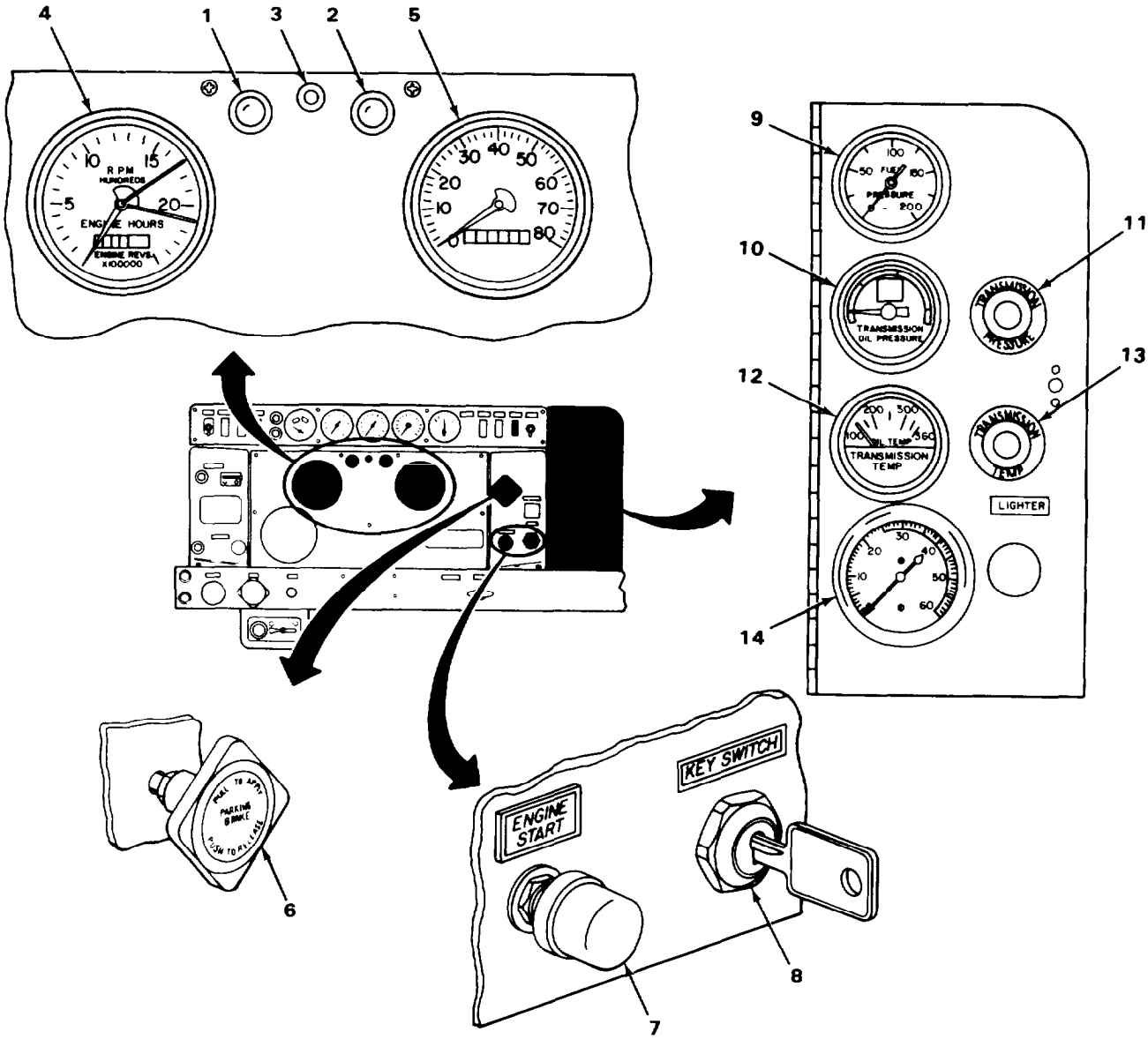
KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	COMPR BRK - ENGINE BRAKE/OFF switch	When set to ENGINE BRAKE, truck is slowed using engine compression when accelerator pedal is released.
2	GLOW PLUG - ON/OFF switch	When set to ON, activates glow plug used for cold weather starting.
3	Glow plug indicator lamp	Lights red when glow plug switch is set to ON.
4	Oil pressure/water temperature indicator lamp	When KEY SWITCH is turned on, alarm bell sounds and lamp lights red, when engine oil pressure is too low or engine coolant temperature is too high.

TA234385

INSTRUMENT PANEL - CONTINUED

KEY	CONTROL OR INDICATOR	FUNCTION OR USE
5	BATT CHG VOLTS gage	Indicates condition of battery and generating system. Gage has dual function and is divided into two sections. The first function, which uses left side of gage, determines battery charge. This is done with key switch turned on before starting engine. Green indicates well-charged battery, yellow - low charge, red - very low charge. The second function, which uses rightside of gage, determines generating system output. Green indicates system working properly, red - voltage output too high.
6	WATER TEMP gage	Indicates engine coolant temperature in degrees Fahrenheit. The gage is graduated in 20-degree increments from 100 to 250 degrees.
7	Engine OIL PRESSURE gage	Indicates engine oil pressure in pounds per square inch (psi). The gage is graduated in 10 psi increments from 0 to 120 psi.
8	AIR PRESSURE gage	Indicates air pressure in psi in both airbrake systems. Green needle indicates front axle airbrake system air pressure. Red needle indicates rear axle airbrake system air pressure. The gage is graduated in 10 psi increments from 0 to 150 psi.
9	FUEL gage	Indicates level of diesel fuel in fuel tanks. The gage is graduated in one-quarter tank increments from E to F.
10	DOME/PNL light switch	A rotary switch that controls brightness of instrument panel lamps when LIGHTS switch is set to ON. Lights dome lamp when rotated to full bright position.
11	LIGHTS switch	A three-position switch normally in center off position. Activates taillights, marker lights, and headlights in down position. Activates taillights and marker lights only in up position.
12	POWER DIVIDER IN/OUT control	In the IN (locked) position, all eight tires of both rear axles are locked into power train. This is done when tires are slipping and extra traction is needed under heavy load conditions. In OUT position, only rear, rear axle is powered. This is used for normal road conditions.
13	Power divider indicator lamp	Lights red when POWER DIVIDER control is set to IN position and both rear axles are engaged.

INSTRUMENT PANEL - CONTINUED



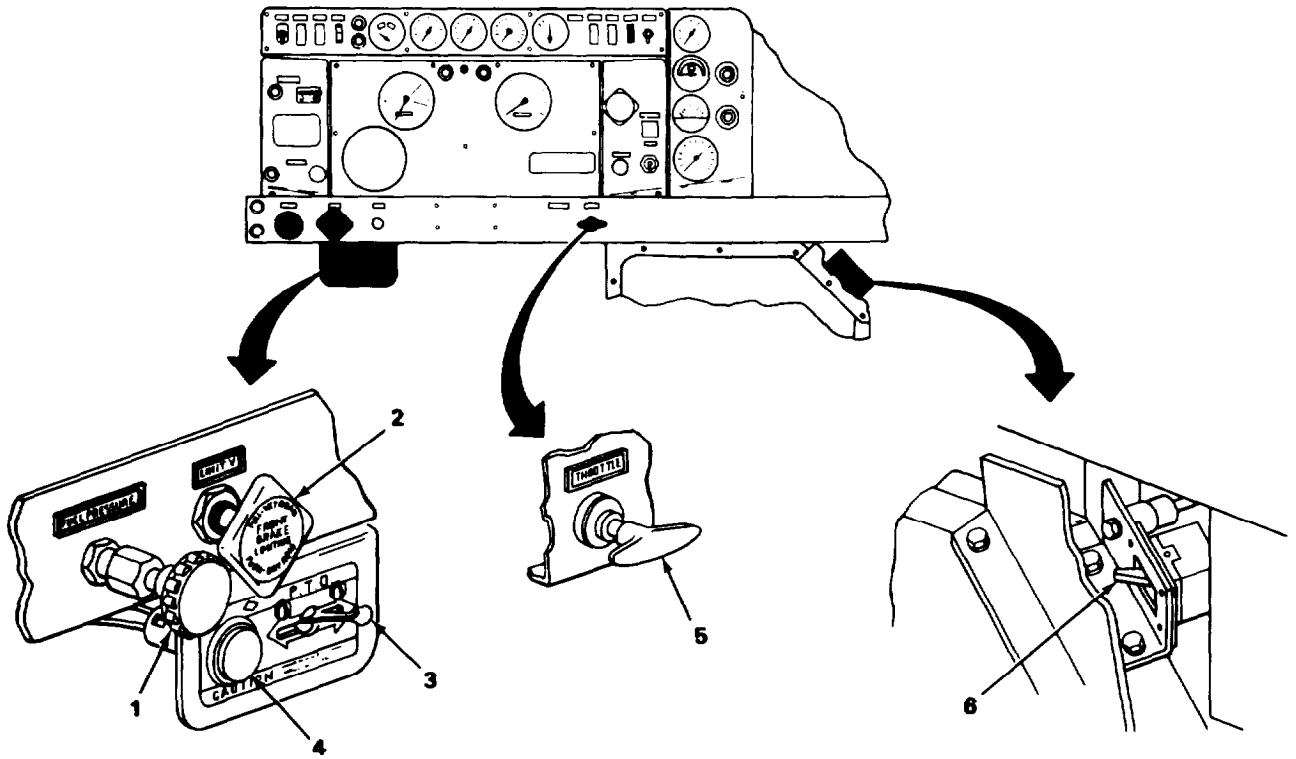
KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Left-turn indicator lamp	Flashes green when left-turn signal is set to on.
2	Right-turn indicator lamp	Flashes green when right-turn signal is set to on.
3	High beam indicator lamp	Lights red when headlight beam selector switch is set to high beam.

TA234386

INSTRUMENT PANEL - CONTINUED

KEY	CONTROL OR INDICATOR	FUNCTION OR USE
4	R.P.M. /ENGINE HOURS meter	Tachometer indicates engine speed in revolutions per minute (rpm). The meter is graduated in 100 rpm increments from 0 to 2500 rpm. Hour meter indicates hours of elapsed time engine was running.
5	Speedometer - odometer	Speedometer indicates rate of speed in miles per hour (mph) that dump truck is traveling. Speedometer is graduated in 2 mph increments from 0 to 80. Odometer registers miles traveled.
6	Spring brake PARKING BRAKE control knob	Pulling out control knob releases air pressure from rear parking brake chambers, locking rear wheels. Pushing in control knob fills rear parking brake chambers, releasing rear wheels.
7	ENGINE START button	Engine starter circuit is completed when ENGINE START button is pressed and KEY SWITCH is on. This causes starter motor to turn.
8	KEY SWITCH	When KEY SWITCH is set to on (clockwise), current is sent to instrument panel, engine starter circuit, and diesel fuel shutoff valve. When KEY SWITCH is set to accessory (counterclockwise), current is sent to instrument panel only.
9	FUEL PRESSURE gage	Indicates manually pumped fuel pressure to intake manifold of engine when priming pump is used during cold-weather starting. The gage is graduated in 25 psi increments from 0 to 200 psi.
10	TRANSMISSION OIL PRESSURE gage	Indicates pressure of transmission oil. Gage is divided into three sections; red indicates no pressure, white indicates low pressure, and green indicates normal pressure.
11	TRANSMISSION PRESSURE indicator lamp	Lights red when transmission oil pressure is too low for operation.
12	TRANSMISSION TEMP. gage	Indicates temperature of transmission oil in degrees Fahrenheit. The gage ranges from 100 to 360 degrees.
13	TRANSMISSION TEMP indicator lamp	Lights red when transmission oil temperature exceeds normal operating temperature range.
14	AIR CLEANER VACUUM gage	Indicates amount of airflow restriction in inches of water going through air filter assembly. The gage is graduated in 1-inch increments from 0 to 60 inches.

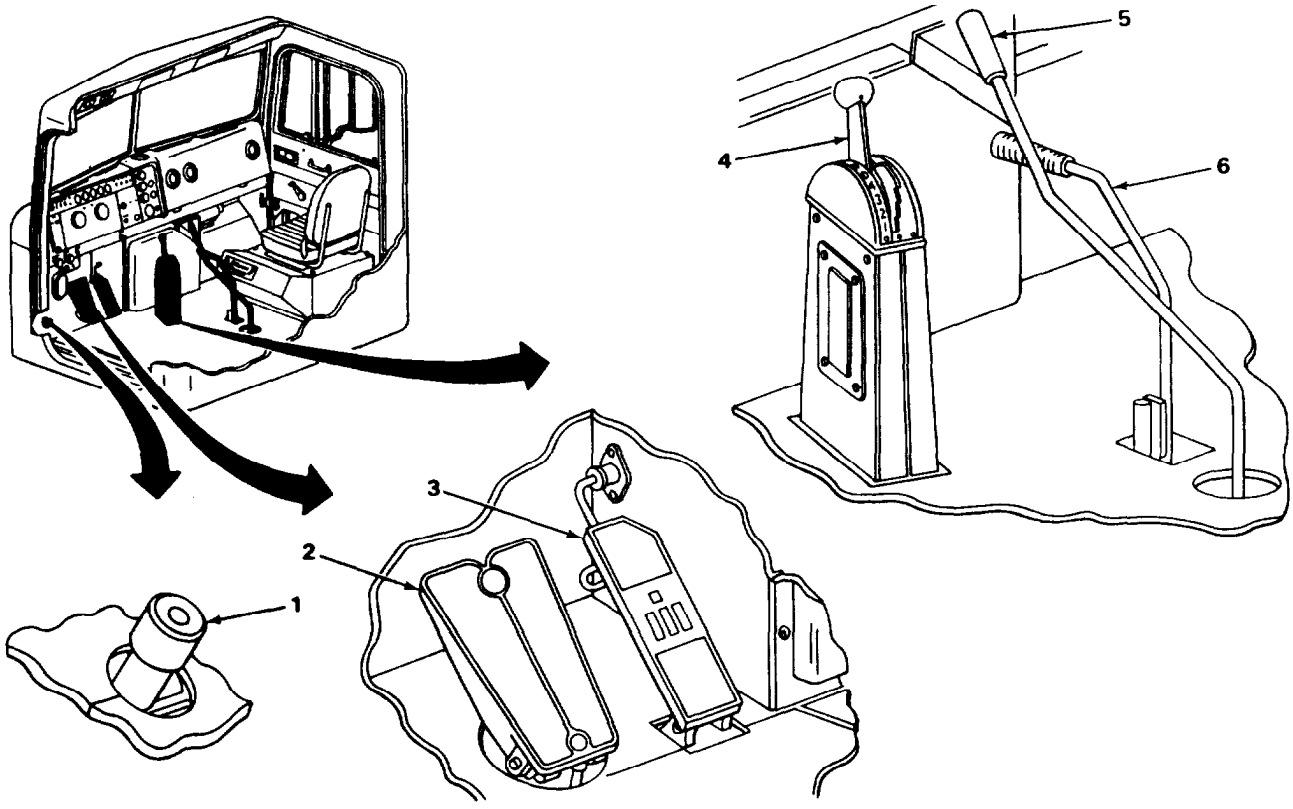
INSTRUMENT PANEL - CONTINUED



KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	FUEL PRESSURE primer pump	The manually operated hand primer pump is used to pump fuel into intake manifold, where fuel is heated by glow plug for cold weather starting.
2	LIMIT V/FRONT BRAKE LIMITING valve	Used to limit air pressure to front brakes during operation on slippery roads or when truck is unloaded. Pulling out knob limits air pressure to front brakes. Pushing in knob resumes normal front brake operation.
3	P.T.O. IN/OUT control	Air-operated control that engages and disengages pto (power takeoff). In the IN position, pto is engaged, supplying dump body with hoisting power. In OUT position, pto is disengaged.
4	Pto indicator lamp	Lights red when pto is engaged.
5	THROTTLE	Used to manually control engine rpm. Pulling out knob increases rpm, pushing in knob decreases engine rpm.
6	IGN SYSTEM starter circuit breaker	Provides electrical overload protection to starter circuit.

TA234387

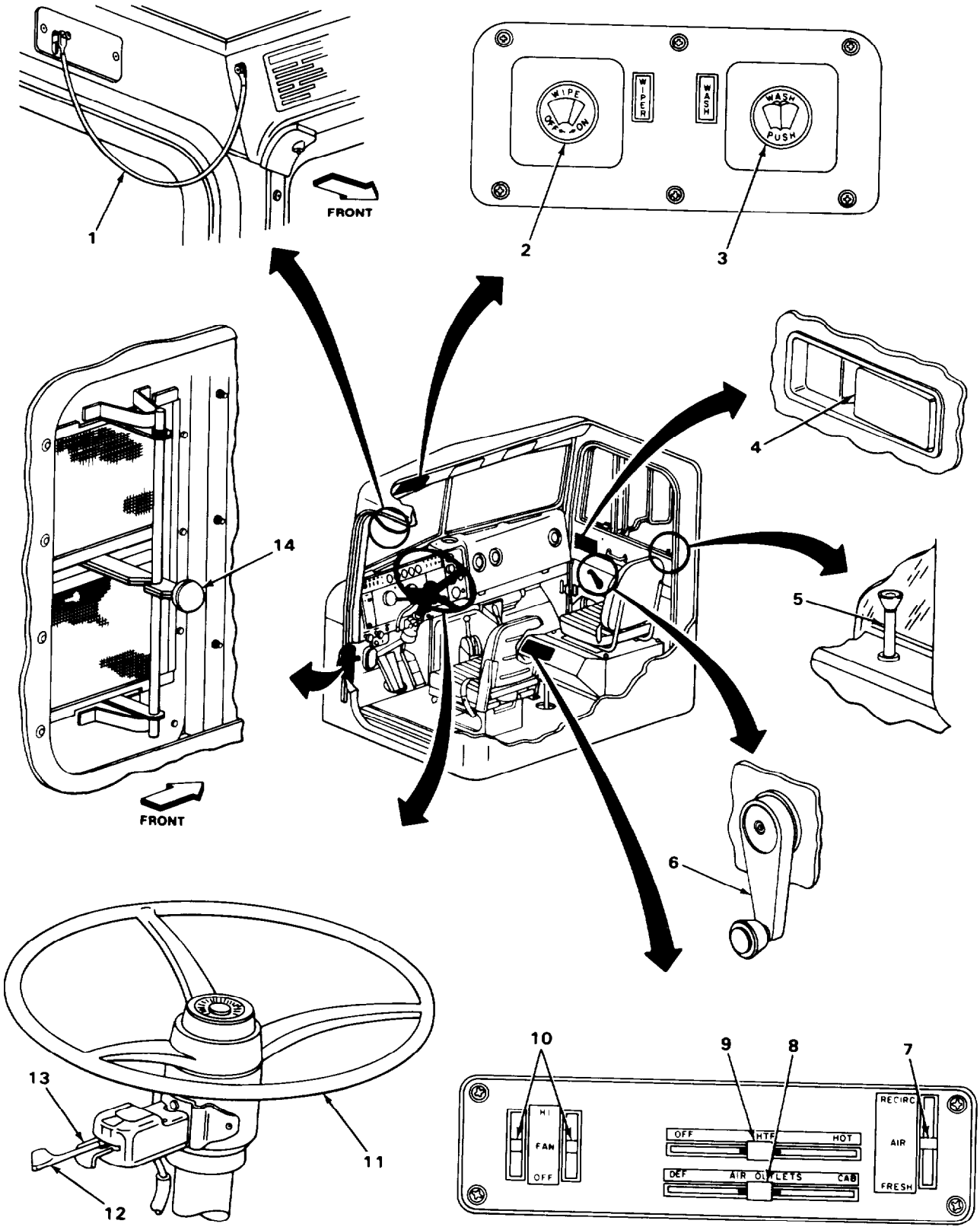
CAB CONTROLS



KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Headlight beam selector switch	Used to select high beam or low beam by pressing and releasing switch with left foot.
2	Service brake pedal	To slow or stop truck, press pedal with foot.
3	Accelerator pedal	To increase engine speed, press accelerator pedal; to decrease engine speed, release accelerator pedal.
4	Main transmission shift control lever	Used to select correct transmission gear range for various driving conditions. Positions 1,2,3,4, and D are the five forward driving gears. N (neutral) is for parking and starting truck. R (reverse) is for backing up.
5	Auxiliary transmission shift control lever	Four-position lever used to select one of three gear ranges: O.D. (overdrive) is used for highway driving, D. (drive) for normal driving, and U.D. (underdrive) for heavy loads. N (neutral) is used to disengage transmission.
6	Dump body control lever	Three-position lever control used to raise and lower dump body. Pull lever back to raise dump body. Push lever forward to lower dump body. Lever will always return to a neutral position when lever is released.

TA234388

CAB CONTROLS - CONTINUED

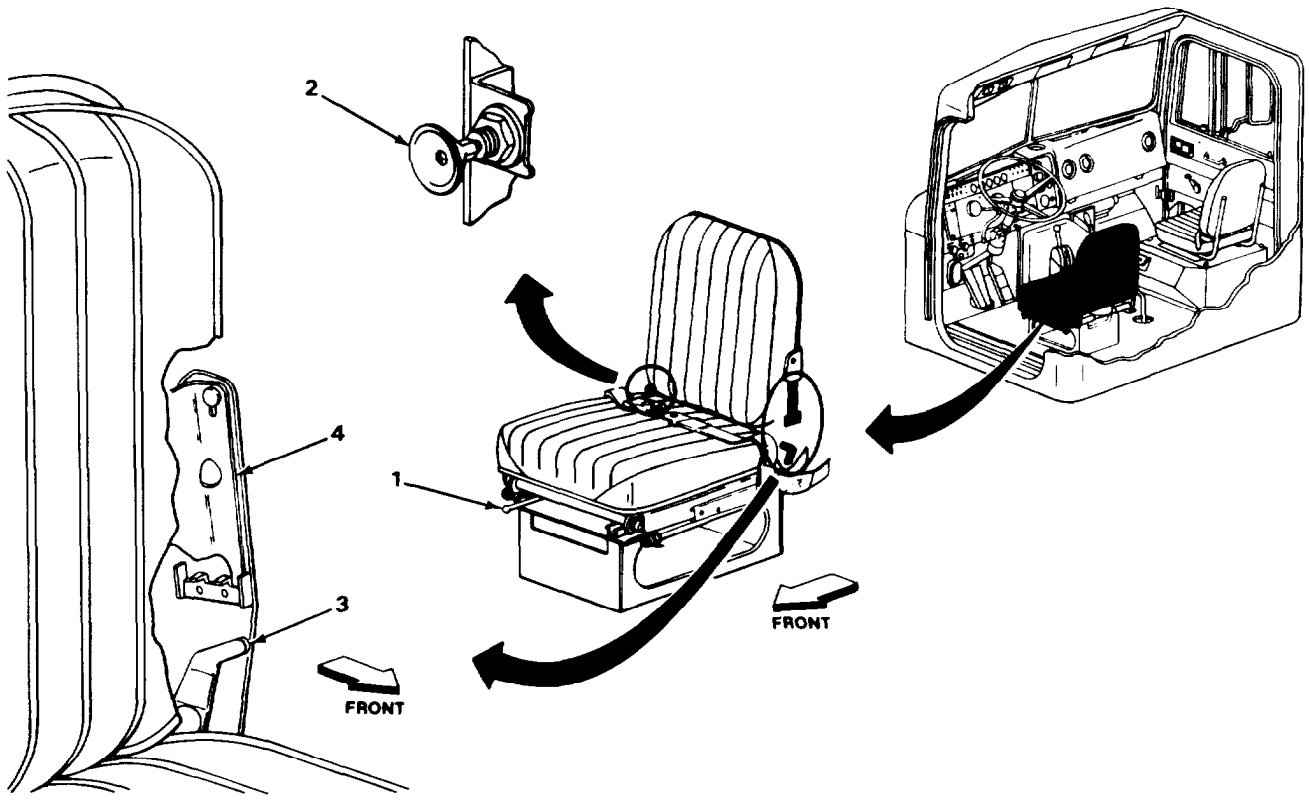


TA234389

CAB CONTROLS - CONTINUED

KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Air horn wire	Pull down to sound air horn.
2	Windshield WIPER/WIPE - OFF/ON control	Rotate to clockwise ON position to start wipers. Rotate counterclockwise to OFF position to stop wipers. Wipers are air operated.
3	Windshield WASH/WASH - PUSH control knob	Push in to activate windshield washer. Washer is air operated.
4	Inside door control handle	Opens dump truck cab door by pulling outward.
5	Door lock knob	Locks door from inside cab when pushed down. Unlock by pulling up knob or opening inside door control handle.
6	Window regulator handle	Rotate right handle counterclockwise to lower and clockwise to raise right window glass. Rotate left handle clockwise to lower and counterclockwise to raise left window glass.
7	AIR-RECIRC-FRESH control	Controls vent to direct fresh air from outside cab or recirculated (RECIRC) air from inside cab through heater system.
8	AIR OUTLETS - DEF-CAB control	Directs airflow to windshield defroster and/or cab interior by moving control forward or rearward, respectively.
9	HTR-OFF-HOT heater temperature control	Controls temperature of heated air in cab. Moving control forward decreases heat and rearward increases heat.
10	FAN-HI-OFF switches	Two, three-position electrical switches that regulate fan motor's high, low, and off settings.
11	Steering wheel	Rotate clockwise to turn front wheels to right, counterclockwise to turn wheels to left.
12	Turn signal lever	Push down to turn on left side signal lights. Pull up to turn on right side signal lights. Return to center position to shut off signal lights.
13	HAZARD flasher control	Pull out to flash front and rear signal lights. Push turn signal lever up or down to turn off.
14	Vent control knob	Allows fresh air to enter cab by pushing control knob forward. Allows air to be drawn from cab by pulling knob backwards. Closes vent in center position.

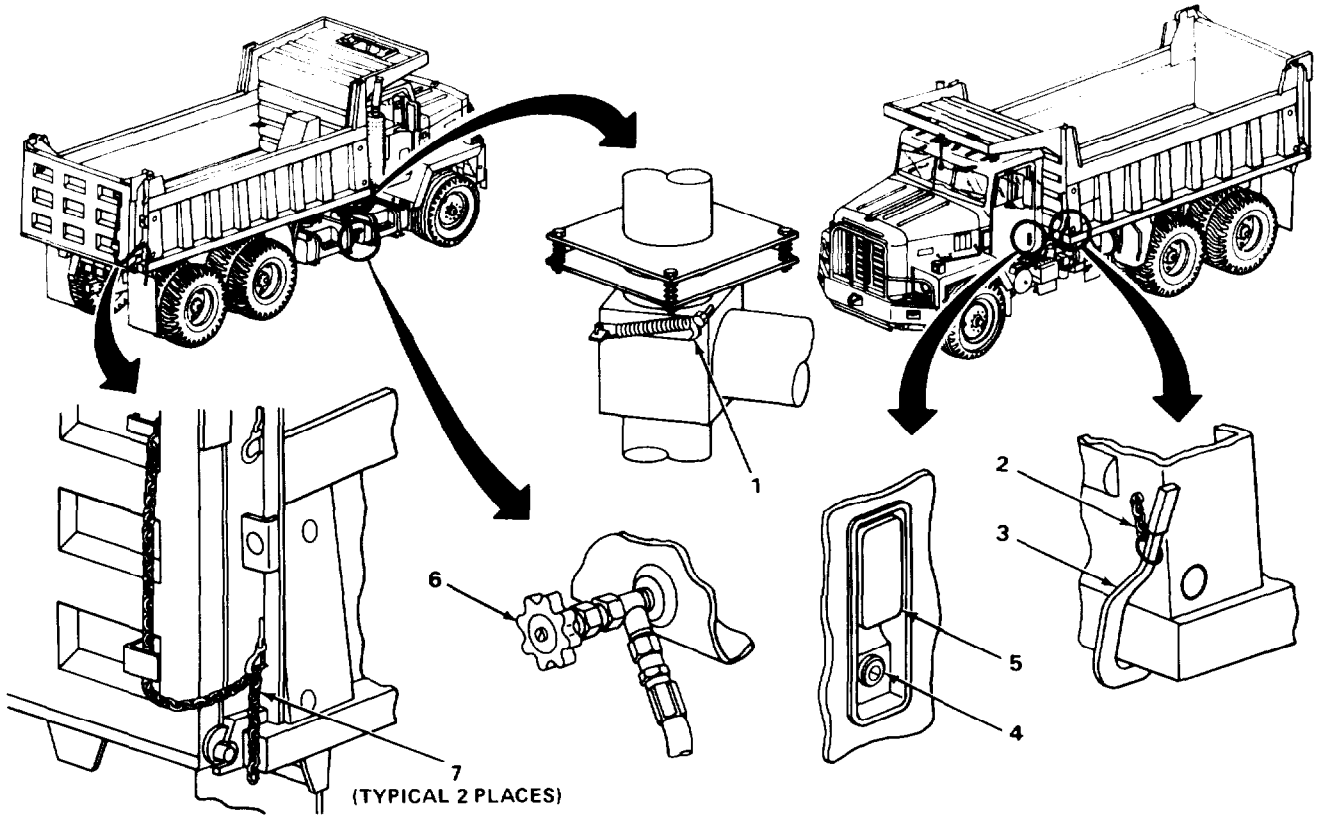
OPERATOR'S SEAT ADJUSTMENT CONTROLS



KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Forward/backward adjustable control	Pushing control to left allows seat to be moved forward or backward on its slides.
2	Air valve regulator control	Air-activated control that is pushed in or pulled out to adjust seat height to driver's weight.
3	Ride level indicator	When indicator is even with side panel of backrest, seat is properly adjusted to driver's weight.
4	Backrest angle adjustment control	Lifting up on backrest enables backrest to be set to one of three backrest angle positions.

TA234390

EXTERIOR CONTROLS



KEY	CONTROL OR INDICATOR	FUNCTION OR USE
1	Engine exhaust diverter valve handle	Diverts exhaust gases into dump body. Normal position is up. Rotating handle downward diverts hot exhaust gases through channels into dump body, heating dump body and keeping load from freezing in extreme cold.
2	Dump body gate release handle safety chain	Secures dump body gate release handle in up position.
3	Dump body gate release handle	Pull down to release dump body gate. Push up to secure dump body gate.
4	Outside door lock cylinder	Used with key. Turn key toward front of dump truck to unlock door; toward rear of dump truck to lock door.
5	Outside door control handle	Pull out bottom of handle to open dump truck cab door.
6	Fuel shutoff valve assembly	Stops fuel flow from rear fuel tank to front fuel tank. Rotate clockwise to close and counterclockwise to open valve.
7	Tailgate safety chains	Used to secure dump body tailgate in closed position.

TA234391

Section II. OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

GENERAL

This section contains PMCS for the dump truck model F-5070. The procedures list checks, services, and criteria to ensure that your dump truck is prepared for operation.

Perform all checks and services at the specified intervals, keeping in mind the following guidelines:

Do before (B) PMCS before operating the dump truck.

Do during (D) PMCS during operation of the dump truck.

Do after (A) PMCS after operating the dump truck.

Do weekly (W) PMCS once a week.

Do monthly(M) PMCS once a month.

SPECIAL INSTRUCTIONS

If your dump truck does not operate properly, troubleshoot the affected system or component with the Information in Operator Troubleshooting Procedures, page 3-1. If you cannot correct the problem, notify your supervisor.

Always do PMCS in the order listed so they will become a habit. Once you have had some practice, you will spot anything wrong right away.

If you find anything that looks wrong and you can't fix it, write it down on your DA Form 2404 and report it to Organizational Maintenance.

When you do PMCS, take along the materials you will need to make the checks and services. You will always need a rag or two.

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flash-point for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately, and get medical aid. If contact with eyes is made, wash your eyes. with water and get medical aid immediately. Failure to observe these precautions could cause serious injury or death to personnel.

SPECIAL INSTRUCTIONS - CONTINUED

Keep Equipment Clean. Dirt, grease, oil, and debris may cover up a serious problem. Clean as you work and as needed. Use drycleaning solvent P-D-680 (item 2, appendix D) on all metal surfaces.

Use clean dry rag (item 1, appendix D) to clean rubber or plastic material and all painted surfaces.

Bolts, Nuts, and Screws. Check that they are not loose, missing, bent, or broken. Report loose or missing nuts, bolts, and screws to Organizational Maintenance.

Welds. Look for gaps where parts are welded together. Report cracked welds to Organizational Maintenance.

Electric Wires or Connectors. Look for cracked or broken insulation, bare wires, and loose or broken connectors. Report loose connections and faulty wiring to Organizational Maintenance.

Hoses, Lines, and Fittings. Look for wear, damage, or leaks. Make sure clamps and fittings are tight. Report any damage, leaks, or loose fittings and clamps to Organizational Maintenance.

LEAKAGE DEFINITIONS

Fluid leaks effect the operational status of the dump truck. The following are definitions of the types/classes of leakage needed to determine the status of the dump truck.

Class I Seepage of fluid (indicated by wetness or discoloration) not enough to form drops.

Class II - Leakage of fluid great enough to form drops, but not enough to cause them to fall.

Class III - Leakage of fluid enough to form drops that fall.

CAUTION

Equipment operation is allowable with minor leaks (class I and II). Consideration must be given to the fluid capacity of the dump truck system. When in doubt, notify your supervisor.

When operating with class I and II leaks, check fluid levels more often than required in the PMCS. Hydraulic systems with leaks will stop working if fluid levels are not maintained.

Class III leaks should be reported to your supervisor or Organizational Maintenance.

PMCS COLUMN DESCRIPTION

Item No. - The order that PMCS should be performed.

Interval - Tells when each check or service is to be performed.

Item To Be Inspected/Procedure - Lists the item to be inspected and the checks and services to be performed.

Equipment Is Not Ready/Available If Has an entry only when your dump truck should not be operated or accepted with the problem listed. Deny use of the equipment until corrective maintenance has been performed.

OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

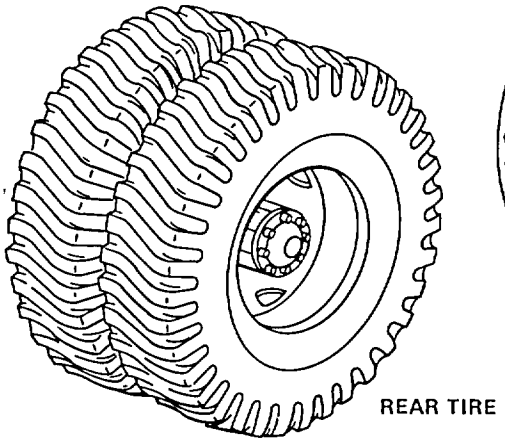
B - Before D - During A - After W - Weekly M - Monthly

ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
						NOTE **Perform (W) as well as (B) PMCS if you are the assigned operator and have not operated the dump truck since the last weekly inspection, or you are operating the dump truck for the first time.**	
1.						TIRES	
	•					Visually check for under-inflated and unserviceable tires. Check tires for leaks, cuts, gouges, cracks, and bulges. Remove all foreign objects.	Any tire is missing or unserviceable. Tire has cut, gouge, leak, crack, or bulge which may result in tire failure during operation.
2.						WHEELS	
	•					Visually check for loose, broken, or missing lug nuts.	Two or more lug nuts loose, broken, or missing.

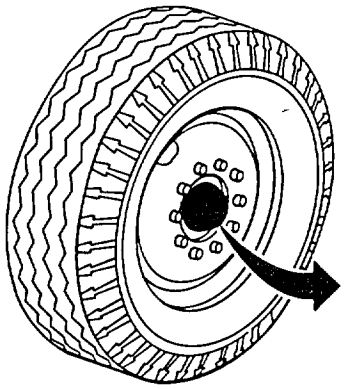
OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

B - Before **D - During** **A - After** **W - Weekly** **M - Monthly**

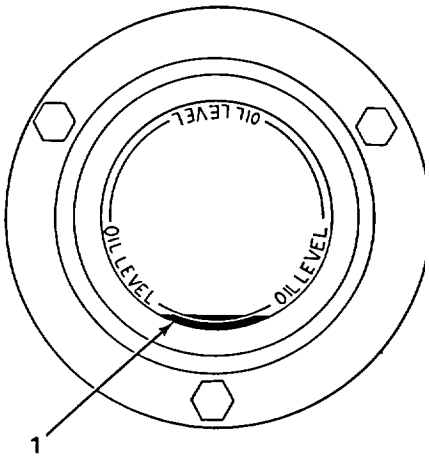
ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
3.						WHEEL BEARING	
	•					Check front wheel bearing sight windows (1). Make sure sight windows are not cracked or broken. Oil level should be at oil level mark.	Sight window is cracked, broken, or oil level is below or not visible in sight window.



REAR TIRE



FRONT TIRE



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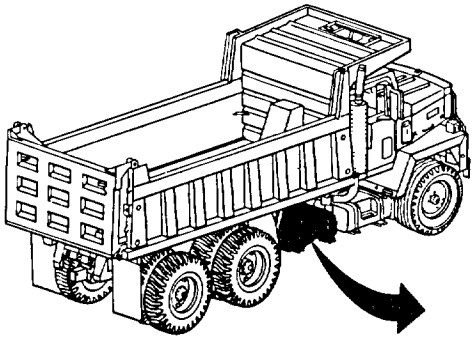
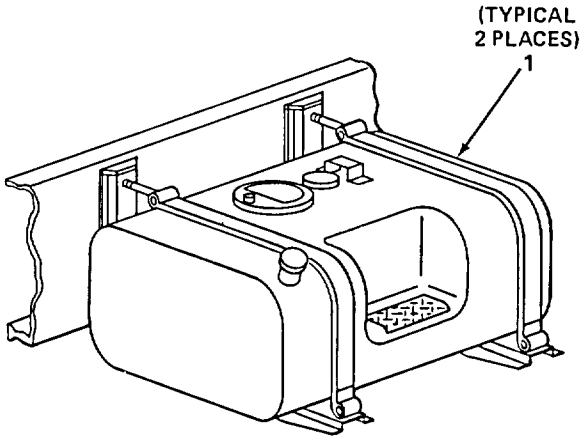
OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)'- CONTINUED

B - Before **D - During** **A - After** **W - Weekly** **M - Monthly**

ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
4.						FUEL TANK **WARNING** **Diesel fuel is combustible. Do not smoke or allow open flames near fuel tanks. Death or serious injury could result if precautions are not followed. If you are burned, seek medical aid immediately.**	
	•					Inspect both fuel tanks (1) and fuel lines and fittings for leakage, breaks, bends, and crimps. Check for loose or damaged fuel tank mounting.	Class III leak is present.





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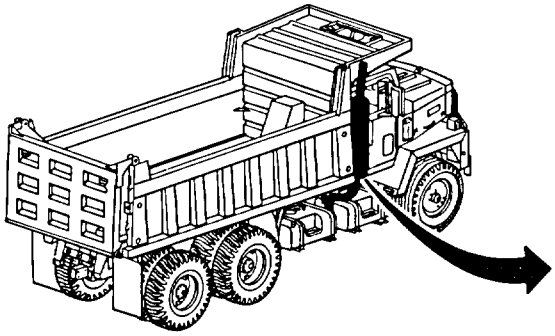
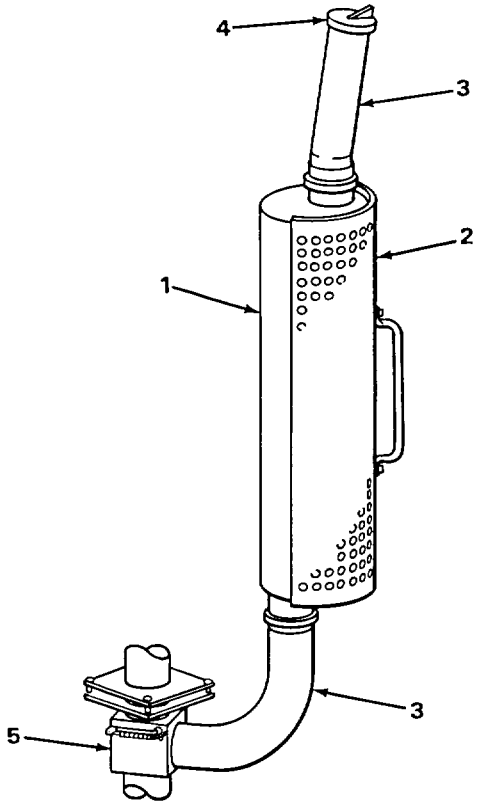
OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

B - Before **D - During** **A - After** **W - Weekly** **M - Monthly**

ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
5.						EXHAUST SYSTEM **WARNING** **Do not operate dump truck in an enclosed area. Breathing excessive exhaust fumes can kill you. If you begin to feel dizzy or develop a headache, seek medical attention immediately.**	
	•					Inspect muffler (1), shield (2), and exhaust pipes (3) for breaks, leaks, and rust holes. Make sure mounting hardware/bolts are tight. Check rain cap (4) and engine exhaust diverter valve (5) for proper operation. (See General Maintenance Procedures, page 3-32.)	Except for exhaust diverter valve, exhaust system leaks.





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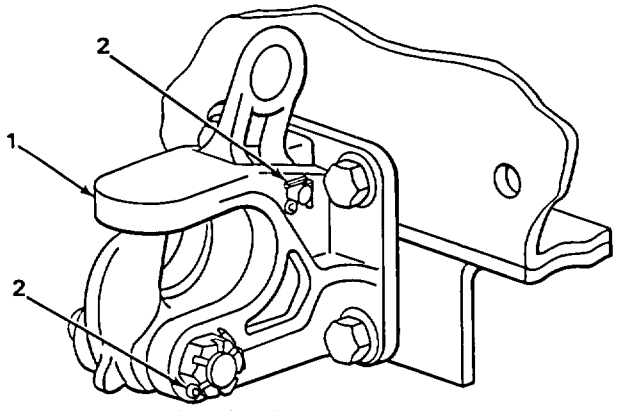
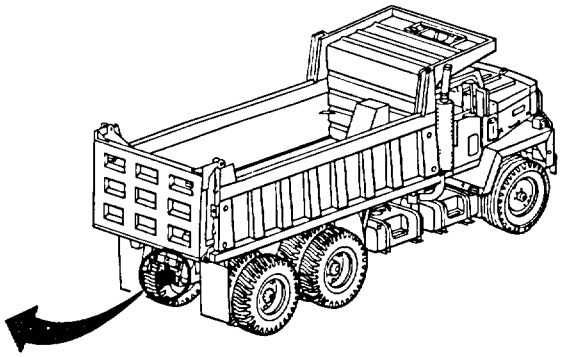
OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

B - Before **D - During** **A - After** **W - Weekly** **M - Monthly**

ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
6.					•	PINTLE HOOK Check for loose, binding, or damaged pintle hook (1) and missing or damaged cotter pins (2).	
7.					•	BATTERIES **WARNING** **When checking batteries, do not smoke or use flame in the area. Batteries generate hydrogen, which is highly explosive. Injury or death could result from an explosion.** a. Check battery compartment (1) and cover (2) for missing or broken latches or hooks, and cracks. Make sure mounting hardware/ bolts are tight.	
	•					b. Lift two latches (3) from hooks (4), remove battery compartment cover (2), and check battery terminals for damage or corrosion. Inspect for loose, burned, or broken battery terminal posts, cracked battery casings, or missing parts. Replace battery box cover.	Battery casings cracked, terminals damaged, terminal posts loose, broken or parts missing.





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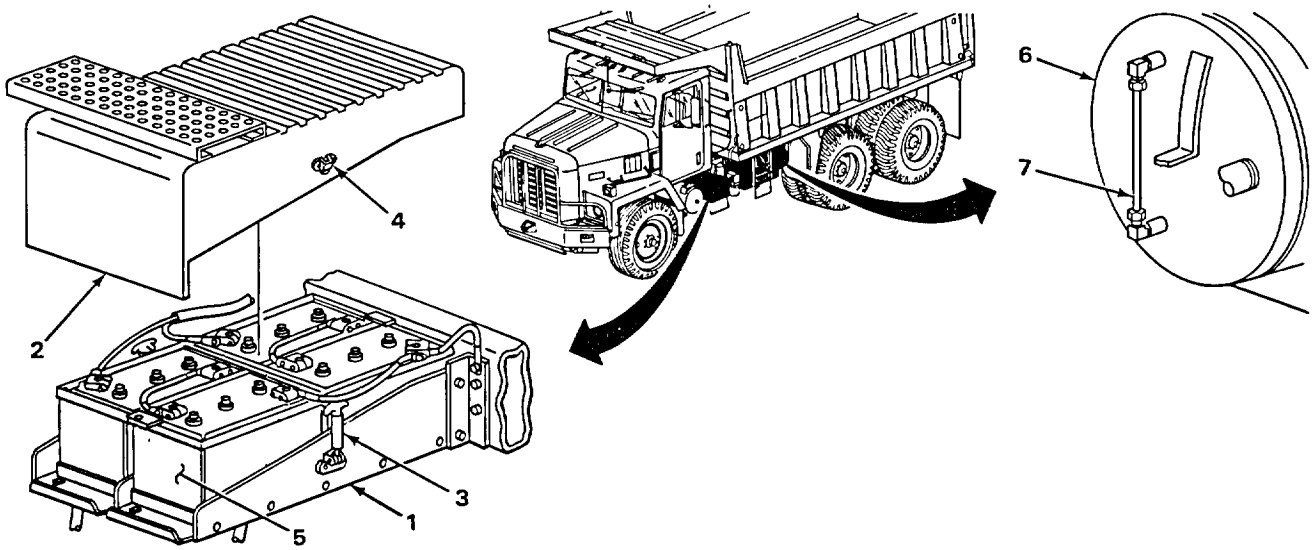
OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

B - Before **D - During** **A - After** **W - Weekly** **M - Monthly**

ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
				•		c. Check battery fluid level in battery (5). See General Maintenance Procedures page 3-32. Battery fluid level should cover battery plates.	
8.						HYDRAULIC RESERVOIR	
	•					a. Check for leaks and damage to reservoir (6). Inspect for leaking, loose, or damaged hoses and fittings.	Class III leak.
	•					b. Check oil level on sight gage (7) mounted on forward end of hydraulic reservoir. See General Maintenance Procedures, page 3-32. Oil level must be no less that two-thirds full.	Oil level less than two-thirds full.



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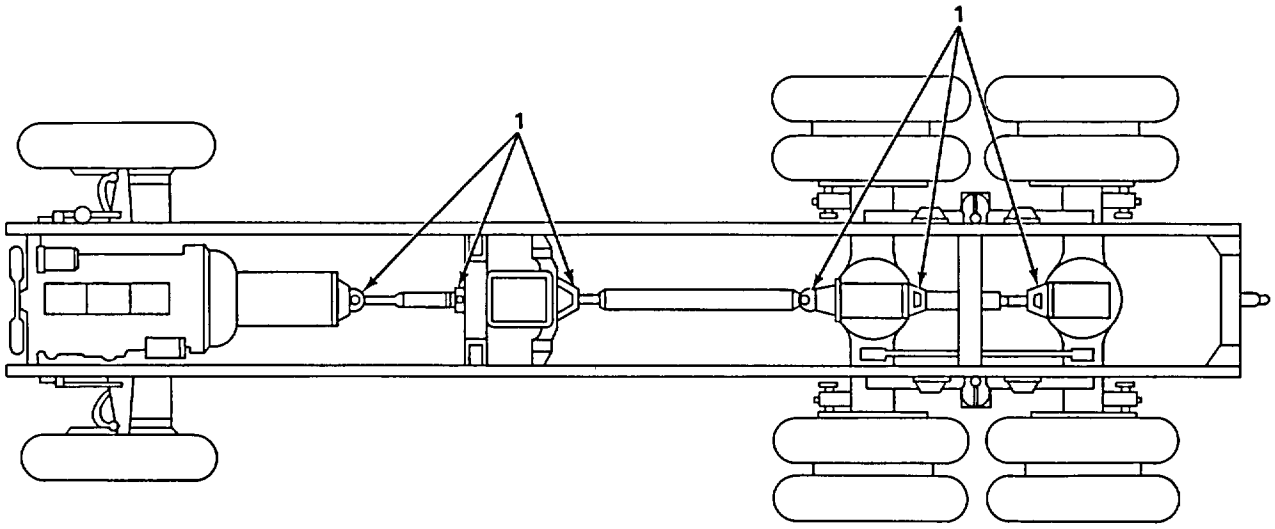
OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

B - Before **D - During** **A - After** **W - Weekly** **M - Monthly**

ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
9						UNDERBODY	
					•	a. Check thoroughly underneath dump truck for leakage.	Class III leak.
					•	b. Check for kinked, cut, bent, or broken parts (springs, brake chambers, propeller shafts, oil pans, lines, hoses and their fittings, frame cross-members, and steering control system).	Loose, missing, or broken parts.
10.						UNIVERSAL JOINTS	
					•	Visually inspect universal joints (1) for loose, missing, or broken bolts, lock plates, or grease fittings.	Loose, missing, or broken parts.



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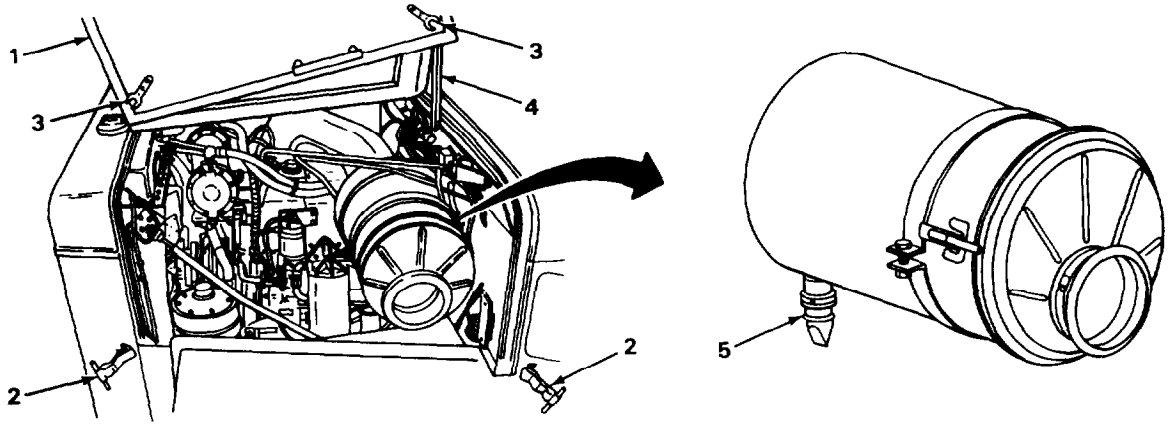
OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

B- BEFORE D - DURING A - AFTER W - WEEKLY M - MONTHLY

ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
11.						ENGINE COMPARTMENT **NOTE** Procedure for opening hood (1) is typical for both sides. Pull two latches (2) up and away from hooks (3). Raise hood (1) to stop, then lower to engage hood prop assembly (4).	
	●					Check all engine compartment components for signs of leakage; broken, bent, or binding control linkages; loose, broken, or frayed wires; loose or broken component mountings; or missing or loose mounting hardware.	Class III leak exists, component or mounting hardware damaged or missing.
12.						AIR CLEANER	
	●					Check for loose, broken, or missing mounting hardware. Squeeze to open air cleaner ejection valve (5) to release trapped dirt and dust. Perform this operation more frequently when operating in sandy conditions.	



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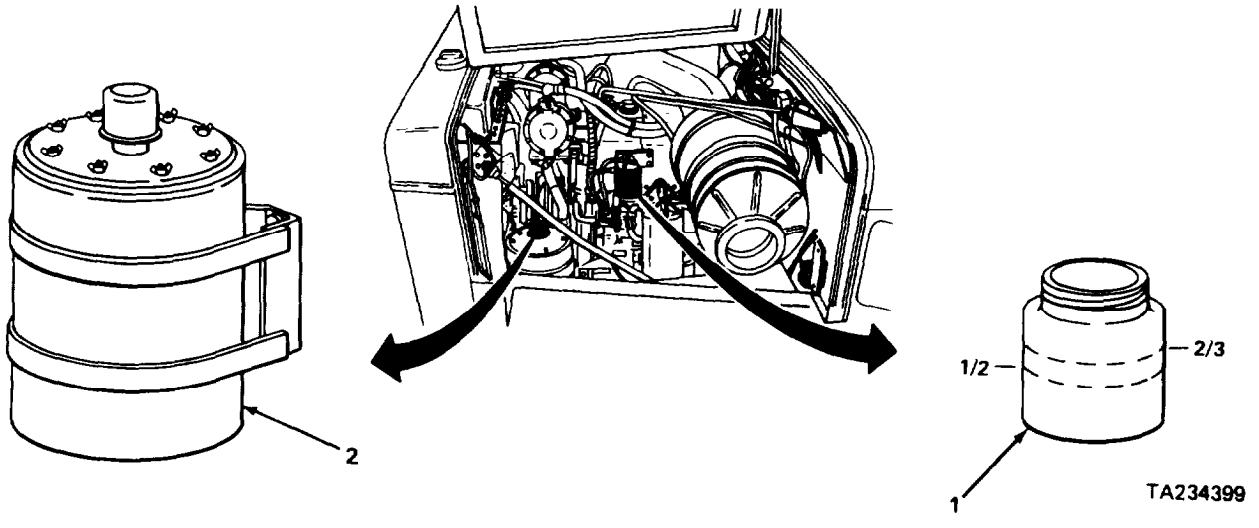
OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

B - BEFORE D- DURING A - AFTER W - WEEKLY M - MONTHLY

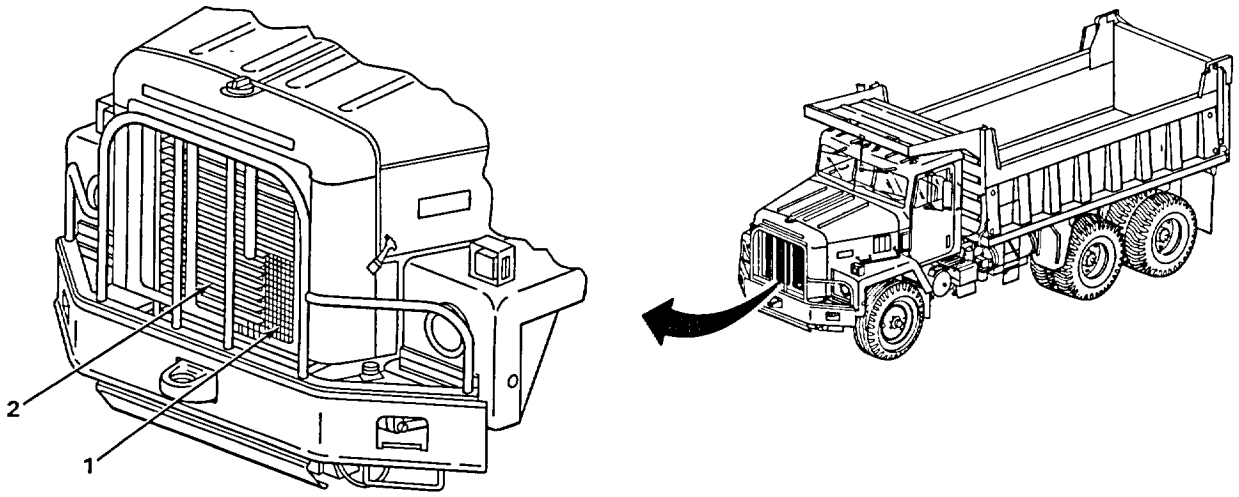
ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
13.						ALCOHOL EVAPORATOR **WARNING** Alcohol is a flammable and combustible liquid. Do not smoke or allow open flames or sparks into areas where combustible materials are used. Death or serious injury could result. If you are burned, seek medical aid immediately.	
	●					Check alcohol level in alcohol evaporator reservoir (1). (See General Maintenance Procedures, page 3-32.) Alcohol level should be between one-half and two-thirds full.	Alcohol is below one-half level in reservoir.
14.						POWER STEERING OIL RESERVOIR	
	●					Inspect for loose or broken mounting hardware and leaks at hoses, lines, fittings, and reservoir (2). Check oil reservoir fluid level. (See General Maintenance Procedures, page 3-32.) Fluid level should be between F (full) and L (low) on dipstick.	Class III leak. Fluid level below L (low) mark.



OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

B - Before **D - During** **A - After** **W - Weekly** **M - Monthly**

ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
15.						RADIATOR	
	•					Before starting engine, check radiator (1) for leaks, clogged or damaged cooling fins and shutters (2), and loose, leaking, or damaged hoses to and from the engine.	Class III leak.
16.						ENGINE COOLANT'	
						WARNING **Do not remove radiator cap when engine reaches or exceeds operating temperature, 165° to 195°F (74° to 90°C). To avoid injury, shut down engine and allow radiator to cool before removing cap. Allow engine to cool before filling radiator to avoid damage to engine or injury to personnel.**	
	•					Check coolant level in radiator (1). (See General Maintenance Procedures, page 3-32.) Coolant level should be 1 inch below bottom of filler neck.	

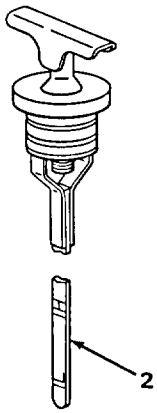


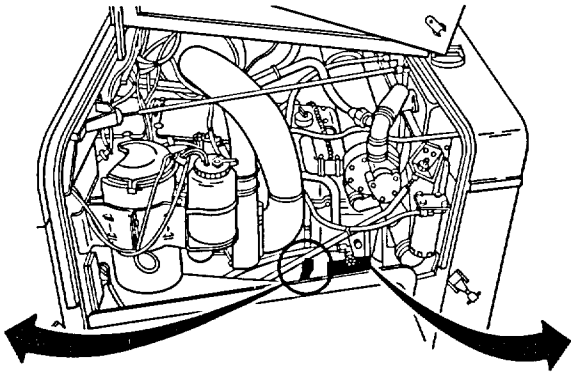
TA234400

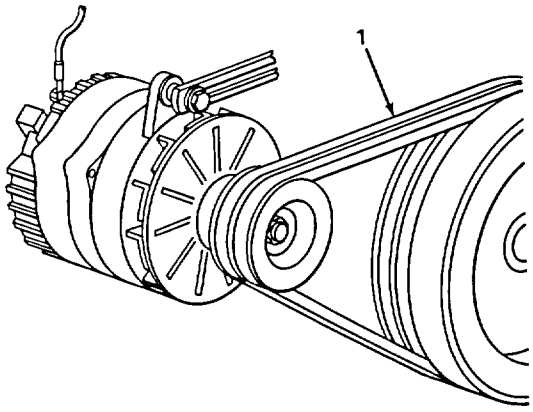
OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

B - Before D - During A - After W - Weekly M - Monthly

ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
17.						DRIVE BELTS	
	•					Before starting engine, inspect generator and fan drive belts (1) for looseness, fraying, and cracking. " way between two pulleys using moderate finger pressure. Belts slipping, frayed, or cracked.	Drive belt looseness allows more than 1/2 inch (1.3 cm) deflection mid-
18.						ENGINE OIL	
	•					Check engine oil level. (See General Maintenance Procedures, page 3-32.) Oil level should be between H (high) and L (low) marks on dipstick (2).	Oil level is below L (low) mark on dipstick.







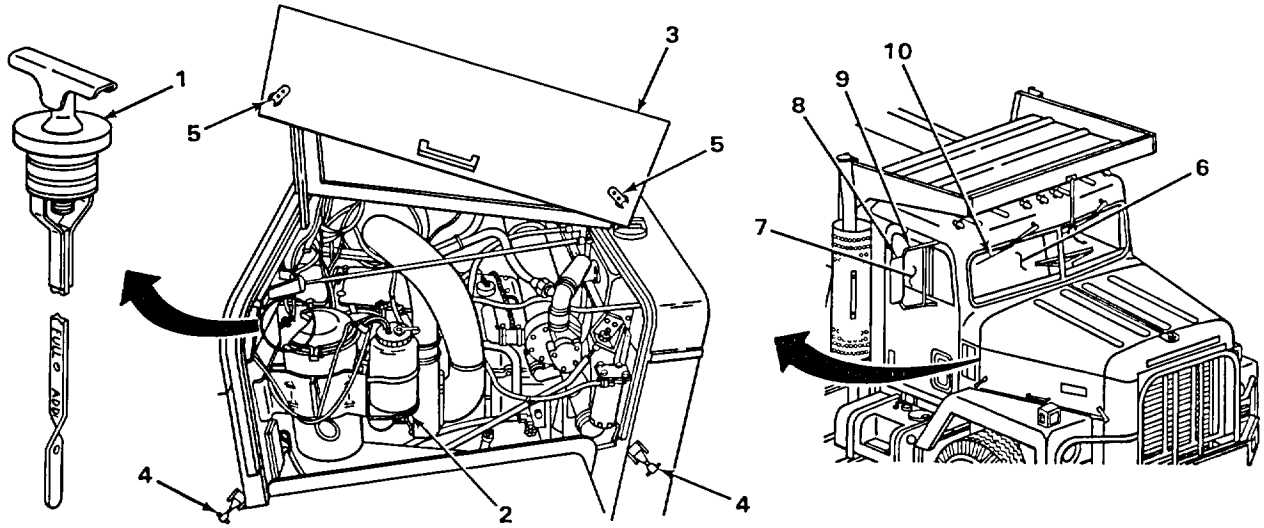
19.						MAIN TRANSMISSION OIL	
	•					Perform applicable starting procedure (page 2-37 or 2-40). Idle engine at 580 to 640 rpm at operating temperature of 165° to 195°F (74° to 90°C), pull out PARKING BRAKE control knob, and place main transmission control lever in neutral (N). Check main transmission oil level. (See General Maintenance Procedures, page 3-32.)	Oil level below ADD mark.

TA234401

OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

B - Before **D - During** **A - After** **W - Weekly** **M - Monthly**

ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
						Oil level should be between FULL and ADD marks on dipstick (1).	
20.						WINDSHIELD WASHER	
				•		Check operation of windshield washer and level of fluid in container (2). Fluid level should be no less than one-fourth full. Perform this check more frequently when operating windshield washer in dusty conditions.	
						NOTE **Raise hood (3) to stop, lower to rest on fender. Pull two latches (4) up and into hooks (5). Closing hood is typical for both sides.**	
21.						CAB	
	•					Check windshield (6), all windows (7), and mirrors (8) for cracks or broken glass. Check mirror mountings (9) for damaged or missing hardware. Be sure that all windows and mirrors are clean. Check windshield wipers/arms (10) for proper operation, looseness, and wear.	Cracked or broken windshield that obstructs vision of operator.

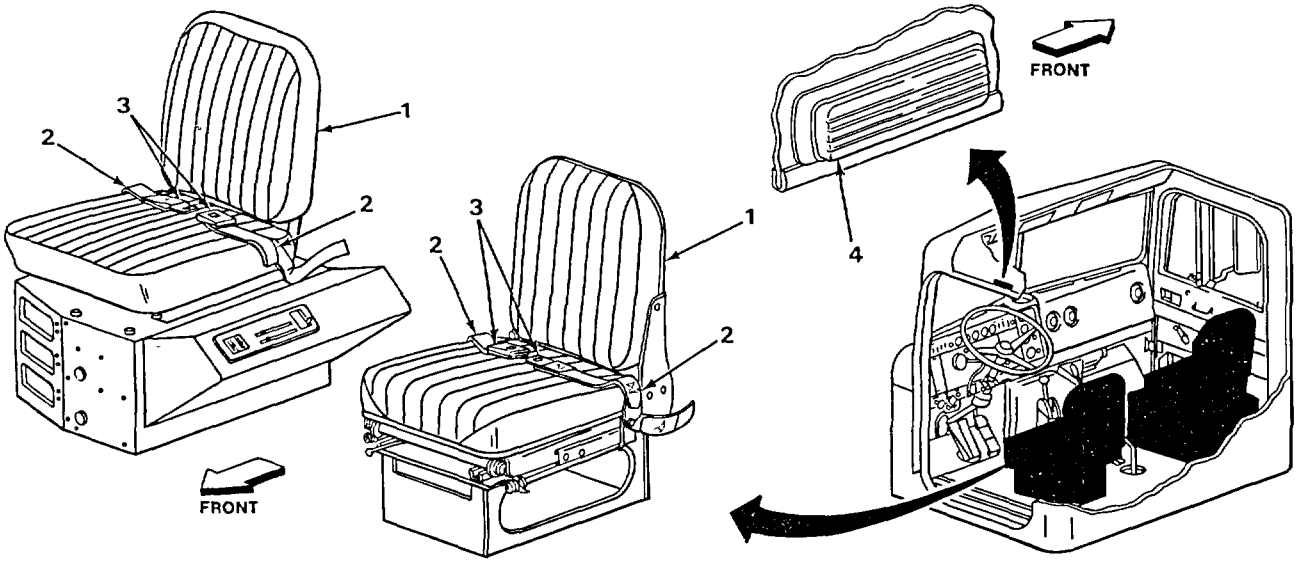


TA234402

OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

B - Before **D - During** **A - After** **W - Weekly** **M - Monthly**

ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
22.						DATA PLATES	
				•		Check for torn, illegible, or missing data, warning, and instruction plates (page 2-67 thru 2-71).	
23.						SEATS	
	•					Check operator and crew seats (1) for rips, cuts, or tears and loose mountings. Check seatbelts (2) for cuts or fraying and seatbelt buckle (3) for proper operation.	Seatbelts cut, buckles broken or not working properly.
	•					DOME LIGHT Rotate dome light switch to on position and check dome light (4) for burned out bulb or cracked lens.	



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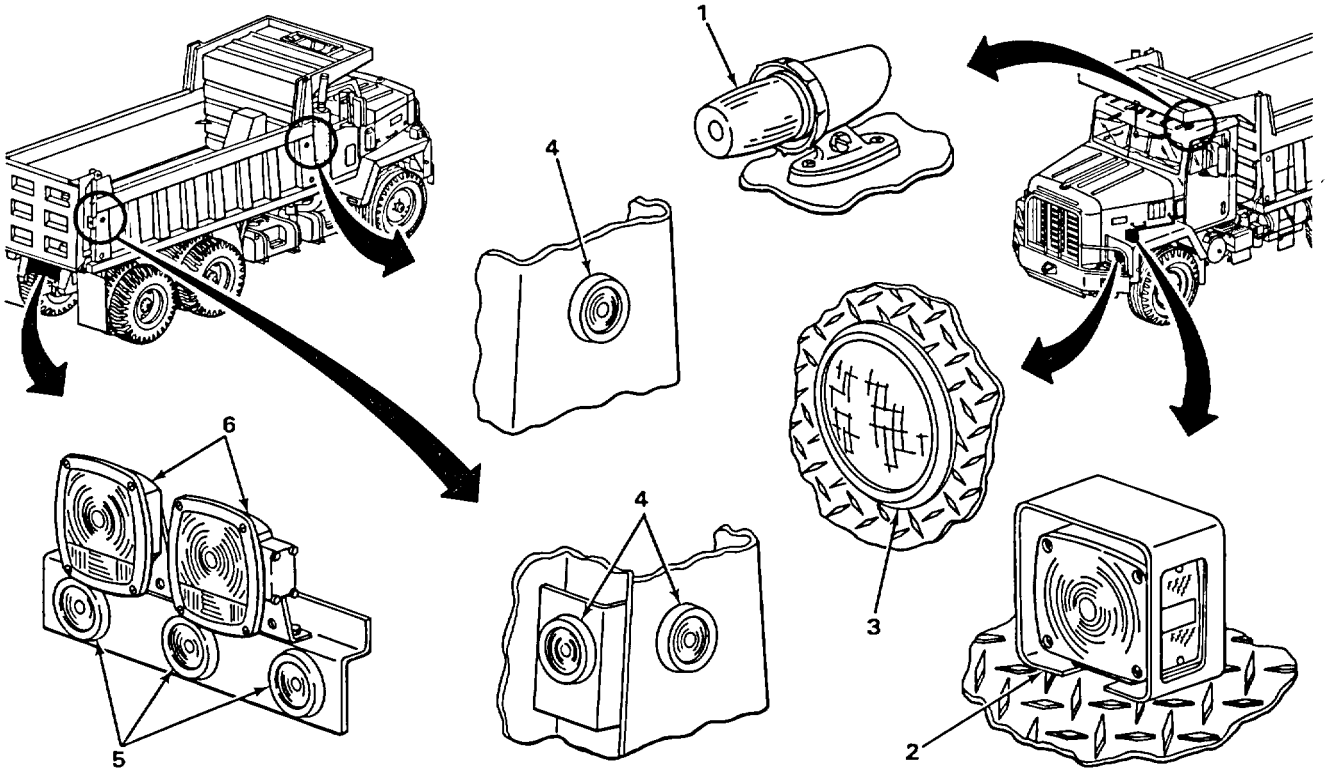
OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

B - Before **D - During** **A - After** **W - Weekly** **M - Monthly**

ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
24.						HEAD, TAIL, MARKER, AND SIGNAL LIGHTS	
	•					Turn KEY SWITCH to ON. Turn on LIGHTS switch and check front marker lights (1), front turn signals (2), headlights (3), dump body marker lights (4), rear marker lights (5), and stop, turn, tail-, and backup lights (6) for burned out bulbs, cracked or broken lenses, and loose, broken, or frayed wires. Check turn signals and hazard flashers for proper operation (page 2-8).	Any lights inoperable except dump bed marker lights.



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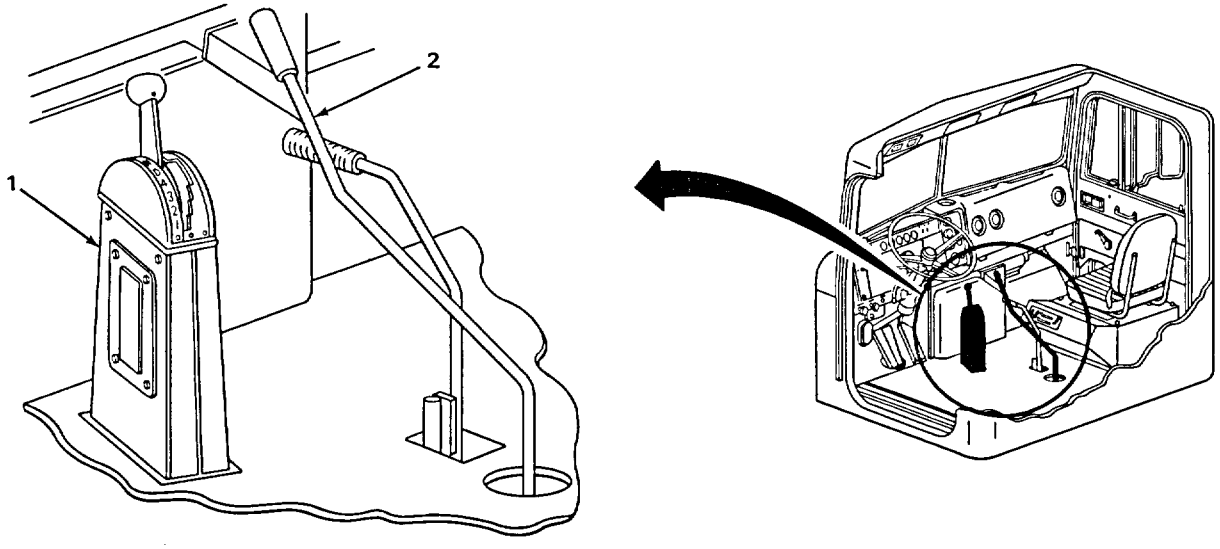
OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

B - Before **D - During** **A - After** **W - Weekly** **M - Monthly**

ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
25.						MAIN TRANSMISSION	
	•	•				Perform applicable starting procedure (page 2-37 or 2-40). With engine running and at operating temperature, 1650 to 195°F (740 to 90°C), and auxiliary transmission in neutral, shift through positions on main transmission shift lever control (1) stopping for a few seconds in each position. Listen for unusual noises such as whining, knocking, and grinding.	Transmission shifts roughly, slips, vibrates, or makes unusual noises.
26.						AUXILIARY TRANSMISSION	
	•	•				Perform applicable starting procedure (page 2-37 or 2-40). With engine running and at operating temperature, 165°to 195°F (74° to 90°C), and main transmission in 1 position, shift through positions of auxiliary transmission shift lever control (2) for proper operation. Listen for unusual noises such as whining, knocking, and grinding.	Transmission is not shifting properly, shifts roughly, or makes unusual noises.



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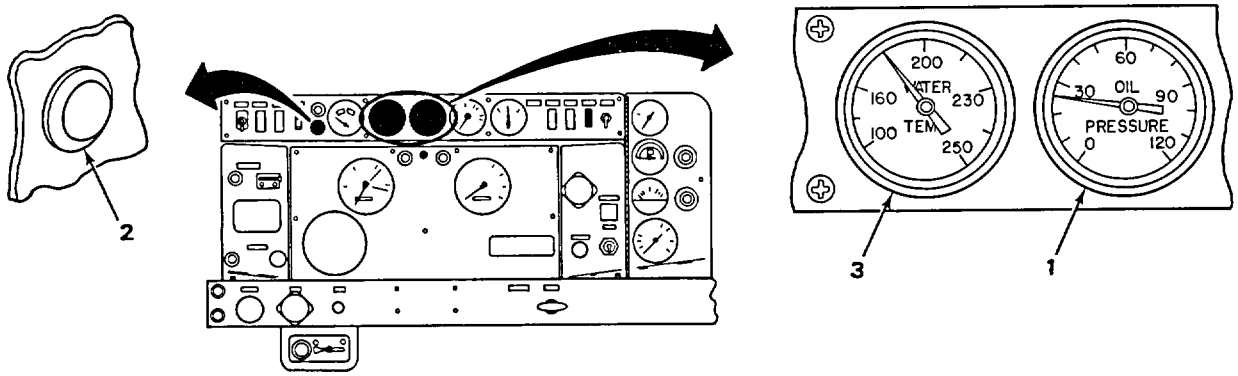
OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

B - Before D - During A - After W - Weekly M - Monthly

ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
27.						INSTRUMENT PANEL, GAGES, METERS, LIGHTS, LAMPS, AND SWITCHES Perform applicable starting procedure (page 2-37 or 2-40). **CAUTION** **Engine oil pressure gage must indicate 15 to 30 psi within 5 seconds of engine startup.** With engine running, do the following checks.	
	•	•	·	·		a. Check that oil pressure gage (1) indicates 15 to 75 psi and OIL/WATER indicator lamp (2) is out.	Engine oil pressure does not register or registers low and/or OIL/WATER indicator lamp stays on.
	•	•				b. With engine running at 580 to 640 rpm for 5 to 10 minutes, check WATER TEMP gage (3) for readings of 1650 to 1950F and OIL/WATER indicator lamp (2) is out.	Engine temperature exceeds or does not reach specified temperature and OIL/WATER indicator lamp stays on.



TA234406

OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

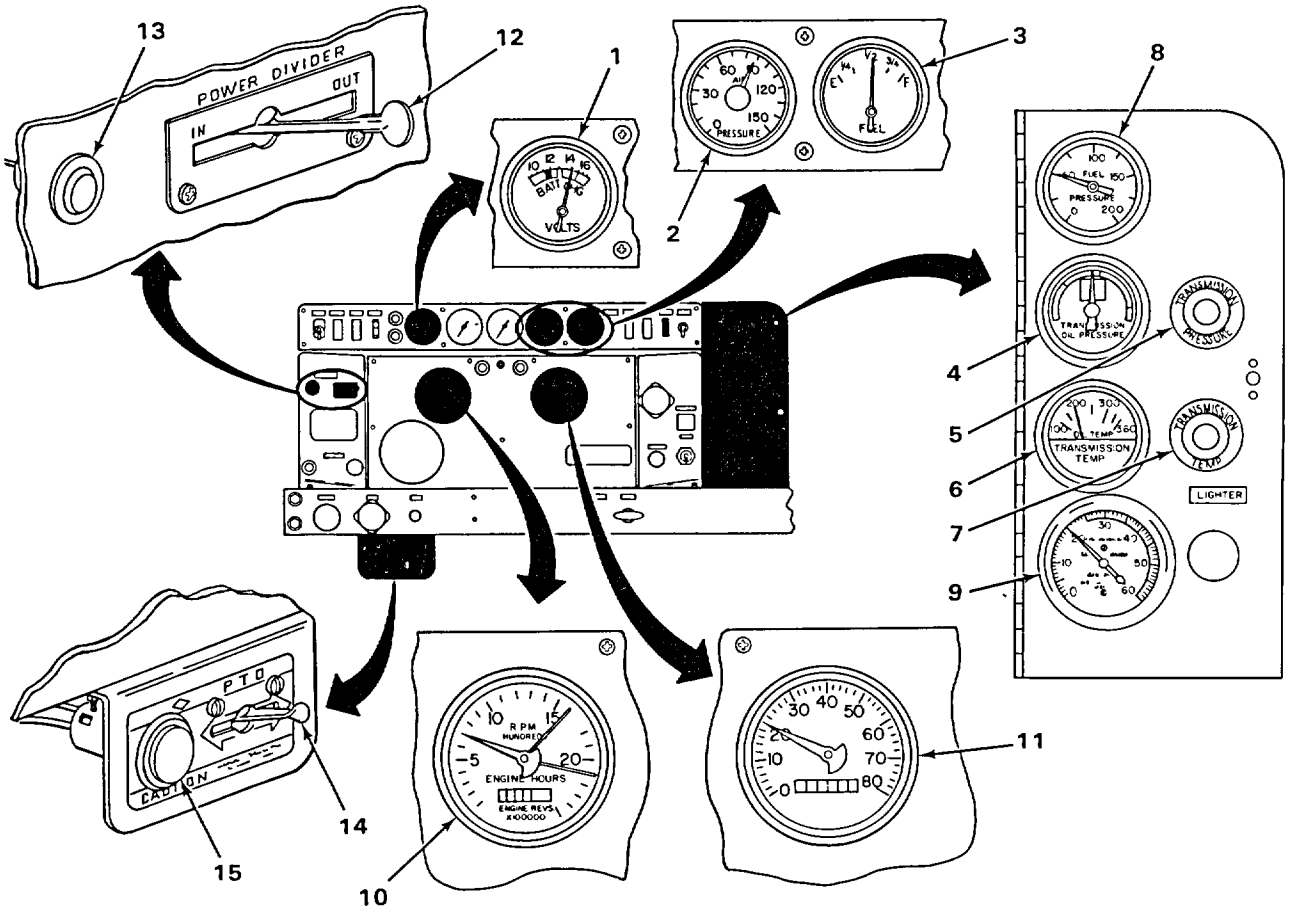
B - Before D - During A - After W - Weekly M - Monthly

ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
27.						INSTRUMENT PANEL, GAGES, METERS, LIGHTS, LAMPS, AND SWITCHES - CONTINUED	
	•	•				c. Check that BATT CHG VOLTS gage (1) indicates in right side green zone.	Indicates above or below right side green zone.
	•	•				d. Check that AIR PRESSURE gage (2) indicates 90 to 125 psi.	Indicates above or below specified pressure.
	•	•				e. Check that FUEL gage (3) indicates above E (empty).	
	•	•				f. With engine running at operating temperature of 1650 to 1950F and 580 to 640 rpm, check that TRANSMISSION OIL PRESSURE gage (4) indicates green and TRANSMISSION PRESSURE indicator lamp (5) is out.	Indicates below specified pressure or indicator lamp stays on.
	•	•				g. Check that TRANSMISSION TEMP. gage (6) indicates 1800 to 225°F and TRANSMISSION TEMP indicator lamp (7) is out.	Indicates above or below specified temperature or indicator lamp stays on.
	•	•				h. Check that FUEL PRESSURE gage (8) indicates 40 to 100 psi.	Indicates above or below specified pressure.
	•	•				i. Check that AIR CLEANER VACUUM gage (9) indicates below red zone.	Indicates in red zone.
	•	•				j. Check that tachometer (10) needle moves smoothly while engine is running at steady speed.	Needle jumps up and down while engine is running at steady speed.
	•	•				k. With dump truck in motion, check that speedometer (11) needle moves smoothly.	

OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

B - Before **D - During** **A - After** **W - Weekly** **M - Monthly**

ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
	•	•				l. Move POWER DIVIDER IN/OUT control (12) to IN position. Power divider indicator lamp (13) should light. Move POWER DIVIDER IN/OUT control (12) back to OUT position.	
	•	•				m. With engine running and main transmission in N (neutral) position, move PTO IN/OUT control (14) to IN position. If PTO does not engage, prepare for dumping (page 2-62). PTO indicator lamp (15) should light.. Move Move PTO IN/OUT control (4) back to position.	

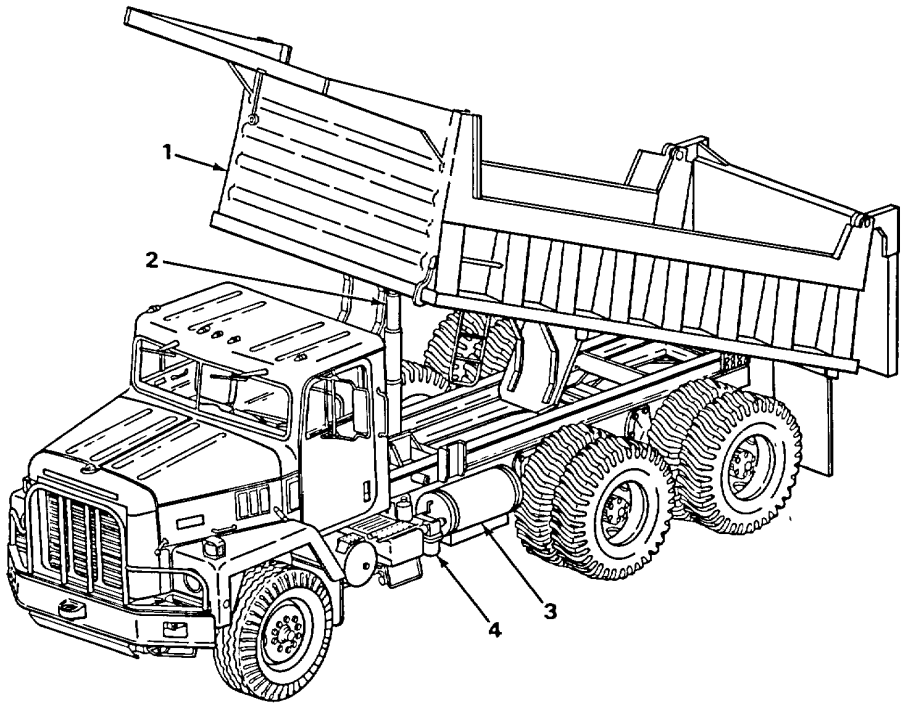


TA234407

OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

B - Before **D - During** **A - After** **W - Weekly** **M - Monthly**

ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
28.						DUMP BODY HYDRAULIC COMPONENTS **NOTE** **To check for hydraulic leaks, dump body must be raised.**	
	•	•				a. With engine idling at 1000 rpm, main transmission in neutral (N) and parking brake engaged, move PTO IN/OUT control to IN. If PTO does not engage, prepare for dumping (page 2-62). Pull dump body control lever back to raise dump body. Visually check hydraulic cylinder (2) for leakage. Lower dump body (page 2-64).	Hydraulic cylinder will not raise dump bed.
	•	•				b. Visually check hydraulic oil reservoir (3) for leaks at fittings.	A class III leak present.
	•	•				c. Visually check hydraulic oil filter (4) for leaks at fittings.	A class III leak present.

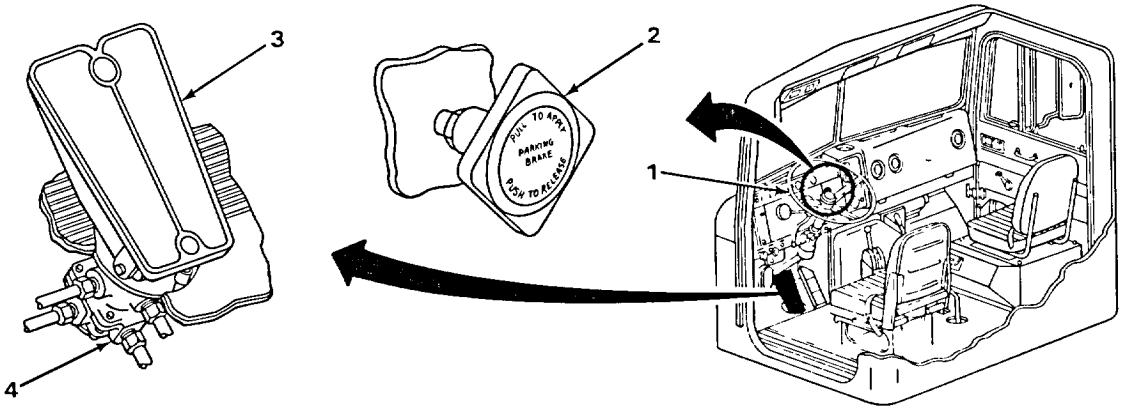


TA234408

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

B - Before **D - During** **A - After** **W - Weekly** **M - Monthly**

ITEM NO.	INTERVAL B	D	A	W	M	ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, FILLED, OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
29.						POWER STEERING	
	•	•				Perform applicable starting procedure (page 2-37 or 2-40). With engine running at operating temperature, 1650 to 195°F (740 to 90°C), turn steering wheel (1) to extreme left, then to extreme right and check for difficulty in steering, binding, and unusual noises such as grinding or squealing.	Unusual noises are heard or steering is difficult or binds.
30.						BRAKES	
	•	•				To check for air leaks, air pressure must be at 120 psi (827 kPa). Activate PARKING BRAKE control knob (2) and listen for hissing noises. Depress service brake pedal (3) and listen for hissing noises at treadle valve (4). Put dump truck in motion and depress service brake pedal (3) and feel service brake pedal for vibration. Check dump truck brakes for pulling to one side.	Hissing noises are heard or brakes pull to one side during brake application.
31.						TURBOCHARGER	
	•	•				Allow engine to idle at 580 to 640 rpm for several minutes and listen for unusual noises such as rattling or grinding.	Rattling, grinding, or other unusual noises are heard.



TA234409

Section III. OPERATION UNDER USUAL CONDITIONS

OVERVIEW

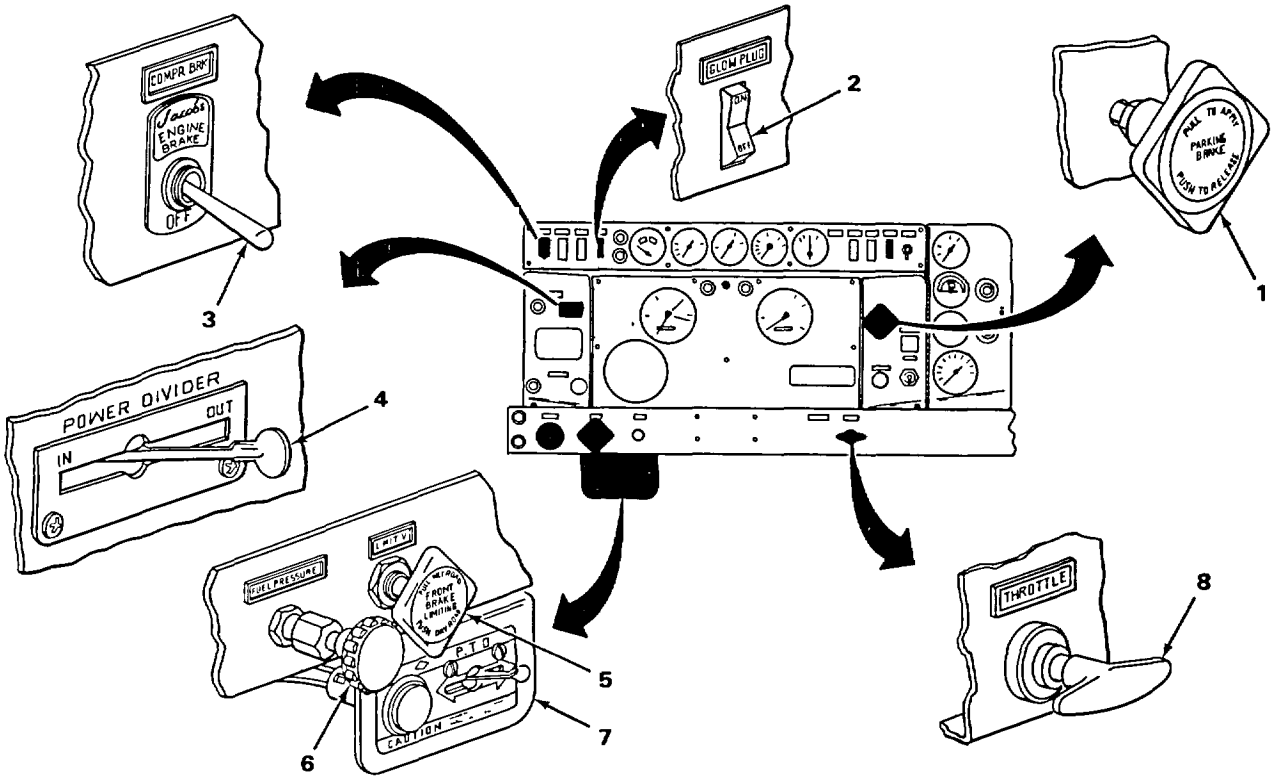
The information in the following pages contains procedures used in operating the dump truck, its components, and equipment. Guidelines are also given for adjusting control settings to meet changing road conditions when driving. Make sure you know these guidelines as well as the operating procedures so that you will be able to respond to different situations as they occur.

Page 2-35 is rescinded.

PRELIMINARY STARTING PROCEDURES

The following procedures are performed by the operator prior to starting dump truck.

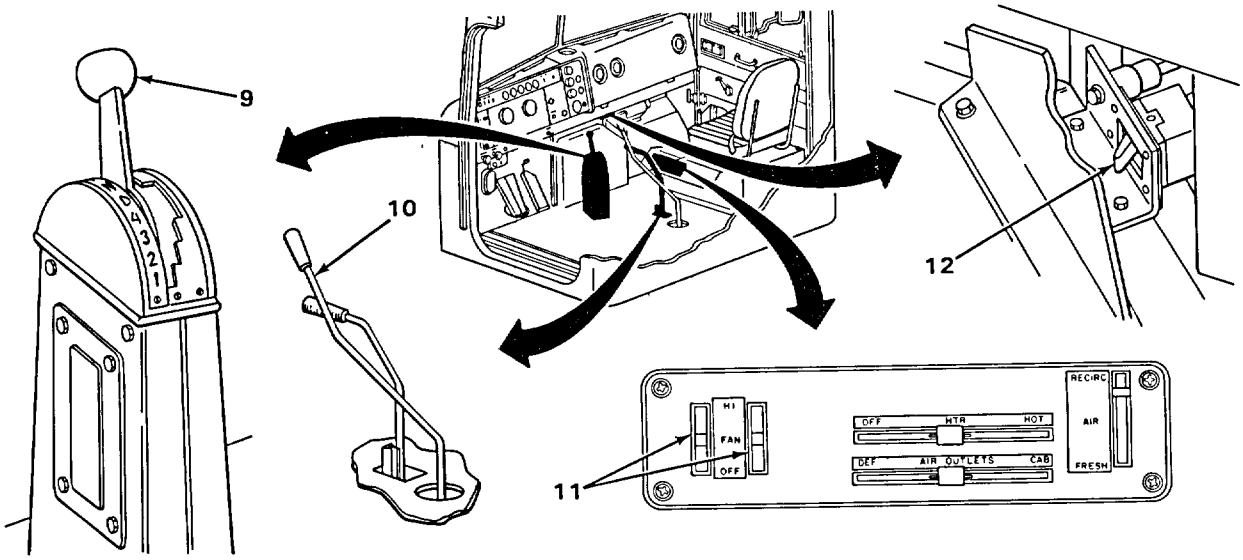
1. Pull out PARKING BRAKE control knob (1).
2. Set GLOW PLUG - ON/OFF switch (2) to OFF.
3. Set COMPR BRK - ENGINE BRAKE ON/OFF switch (3) to OFF.
4. Set POWER DIVIDER IN/OUT switch (4) to OUT.
5. Push in FRONT BRAKE LIMITING valve (5).
6. Push in FUEL PRESSURE priming pump (6) and turn to lock.
7. Set P.T.O. IN/OUT switch (7) to OUT.
8. Push THROTTLE control knob (8) all the way in.



9. Set automatic transmission shift lever control (9) to N (neutral).
10. Set auxiliary transmission shift lever control (10) to N (neutral).
11. Set all heater fan switches (11) to OFF.
12. Set starter circuit breaker (12) to ON.

TA234411

PRELIMINARY STARTING PROCEDURES - CONTINUED



STARTING ENGINE AT TEMPERATURES ABOVE 500F (100C)

Perform preliminary starting procedures (page 2-36) before starting dump truck.

NOTE

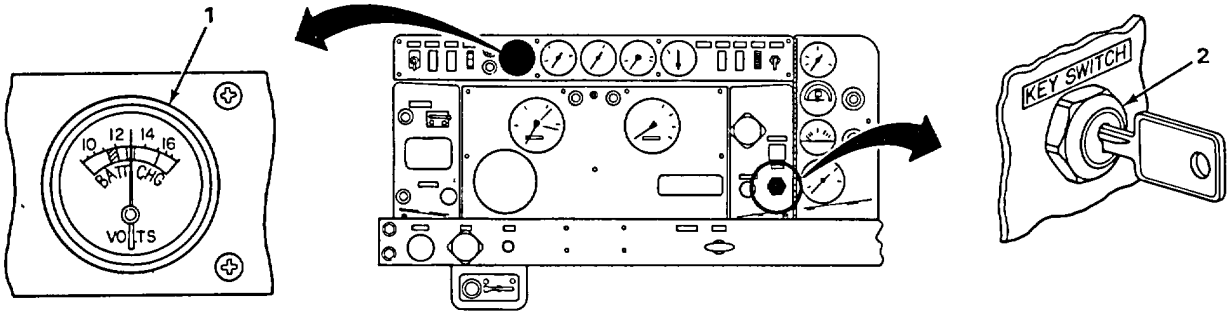
Observe BATT CHG VOLTS gage immediately upon getting into dump truck. If needle does not indicate in green zone on left side of gage, indicating charged batteries, notify Organizational Maintenance.

1. Check BATT CHG VOLTS gage (1) for charged batteries.

NOTE

The dump truck has a neutral safety switch that prevents starting engine in any gear but N (neutral).

2. Inset key into KEY SWITCH (2) and rotate clockwise to on position.



TA234412

STARTING ENGINE AT TEMPERATURES ABOVE 500F (100C) - CONTINUED

3. Check that OIL/WATER temperature indicator lamp (1) and TRANSMISSION PRESSURE indicator lamp (2) are lit.

CAUTION

If engine does not start within 20 seconds, release ENGINE START button to prevent overheating starter motor. Allow starter motor to cool 2 minutes before attempting to start engine again. Never press ENGINE START button while starter is still turning from previous try. If engine fails to start after three attempts, troubleshoot (page 3-5).

NOTE

When truck brake system air pressure is below 60 psi (414 kPa), low air pressure indicator lamp will light and low air pressure warning buzzer will sound. After engine is started and air pressure builds up above 60 psi (414 kPa), low air pressure lamp will go out and buzzer will stop sounding. If low air pressure indicator lamp stays lit and warning buzzer continues to sound, turn KEY SWITCH to off position and notify Organizational Maintenance.

4. Slightly depress accelerator pedal (3) and press ENGINE START button (4). Release ENGINE START button (4) as soon as engine starts.

CAUTION

If no indication of oil pressure is observed on OIL PRESSURE gage after engine is running for 5 seconds, shut down engine immediately to prevent serious engine damage and notify Organizational Maintenance.

To prevent engine damage, do not accelerate engine above 640 rpm for the first 5 to 10 minutes after starting or until WATER TEMP gage indicates 140 F.

Check that all gages indicate pressures and temperatures as given in steps 6 thru 10 after engine has warmed. If any indications differ from readings given, shut down engine and notify Organizational Maintenance.

5. After engine starts, adjust THROTTLE control knob (5) to maintain idle speed of not more than 640 rpm as indicated on tachometer (6).

6. Check that OIL PRESSURE gage (7) indicates between 15 to 30 psi or higher at idle, when engine has warmed.

7. Check that WATER TEMP gage (8) indicates between 1650 to 1950F when engine has warmed. OIL/WATER temperature indicator lamp (1) should be out.

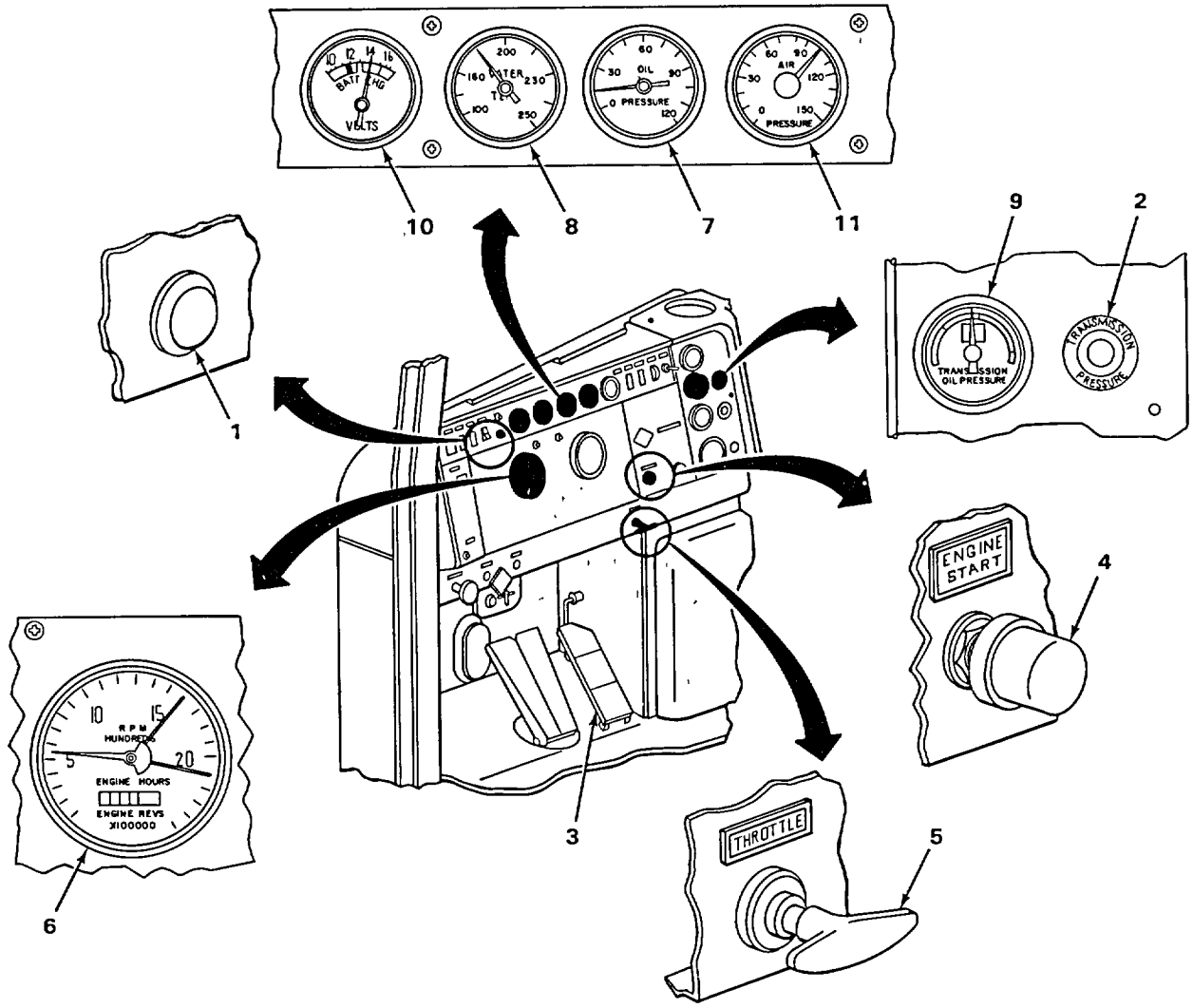
8. Check that TRANSMISSION OIL RESSURE gage (9) indicates green at 60 rpm, when engine has warmed. TRANSMISSION PRESSURE indicator lamp (2) should be out.

9. Check that BATT CHG VOLTS gage (10) indicates on right side of gage in green CHG area.

STARTING ENGINE AT TEMPERATURES ABOVE 500F (100C) - CONTINUED

10. Check that AIR PRESSURE gage (11) red and green needles indicate between 90 and 125 psi.

11. Dump truck is now ready for operation.



TA234413

STARTING ENGINE AT TEMPERATURES BELOW 500F (10°C)

Perform preliminary starting procedures (page 2-36) before starting dump truck.

WARNING

To prevent personal injury from fire or explosion, never use ether when using glow plug to start engine.

NOTE

To aid in starting engine when temperature is 50°F (10°C) or below, an intake air preheater is used. The intake air preheater consists of a glow plug that is electrically operated to heat the air in the intake manifold. It is operated by the GLOW PLUG ON/OFF switch. To feed additional fuel into the intake manifold, a hand primer pump is provided.

Observe BATT CHG VOLTS gage (1) immediately upon getting into dump truck before operation. If needle does not indicate in green zone on left side of gage indicating charged batteries, notify Organizational Maintenance.

1. Insert key into KEY SWITCH (2) and rotate clockwise to on position.
2. Check BATT CHG VOLTS gage (1) for charged batteries.
3. Set GLOW PLUG ON/OFF switch (3) to ON. Red indicator lamp (4) will light to indicate glow plug is on.

NOTE

Wait 20 seconds before operating FUEL PRESSURE priming pump. Use of priming pump before this interval will wet glow plug and prevent it from operating properly.

4. Pump FUEL PRESSURE priming pump (5) several times to build up 80 to 100 psi of fuel pressure as indicated on FUEL PRESSURE gage (6).
5. Check that OIL/WATER temperature indicator lamp (7) and TRANSMISSION PRESSURE indicator lamp (8) are lit.

STARTING ENGINE AT TEMPERATURES BELOW 500F (100C) - CONTINUED

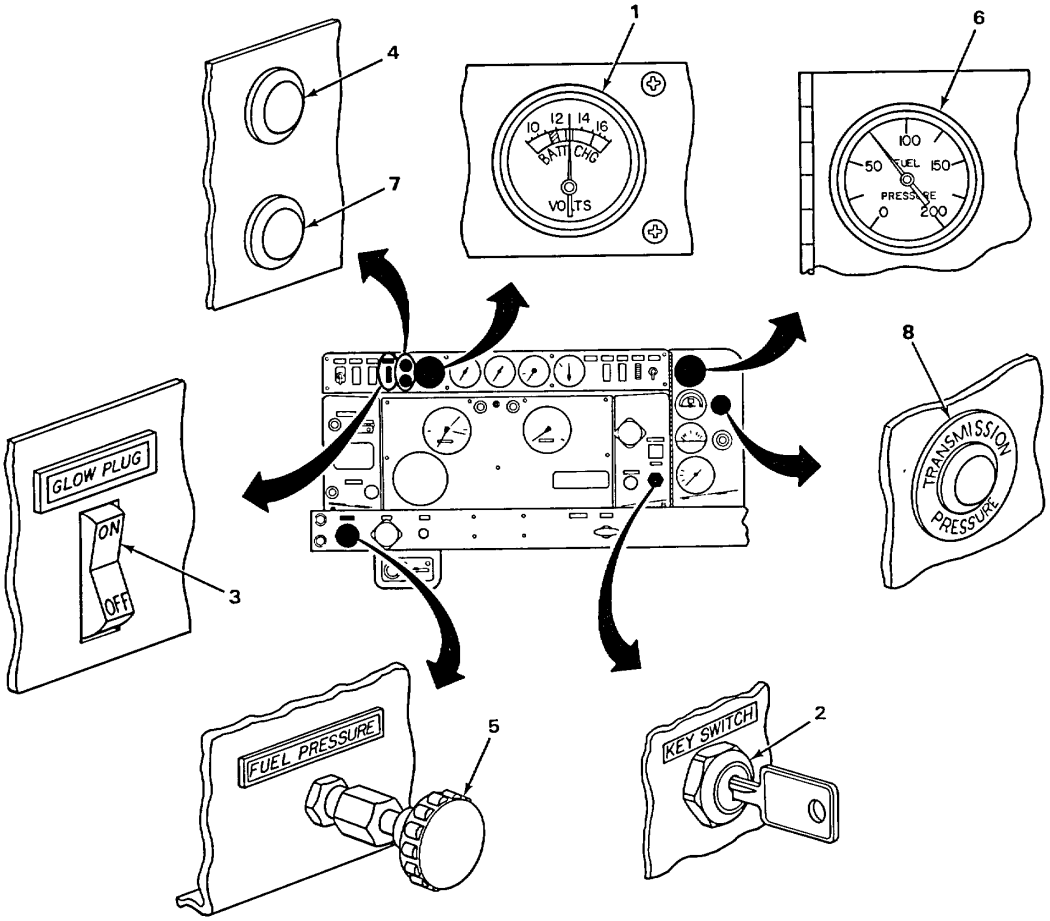
CAUTION

If engine does not start within 20 seconds, release ENGINE START button to prevent overheating starter motor. Allow starter motor to cool 2 minutes before attempting to start engine again. Never press ENGINE START button while starter is still turning from previous try. If engine fails to start after three attempts, troubleshoot (page 3-5).

NOTE

When truck brake system air pressure is below 60 psi (414 kPa), low air pressure indicator lamp will light and low air pressure warning buzzer will sound. After engine is started and air pressure builds up above 60 psi (414 kPa), low air pressure lamp will go out and buzzer will stop sounding. If low air pressure indicator lamp stays lit and warning buzzer continues to sound, turn KEY SWITCH to off position and notify Organizational Maintenance.

Dump truck has a neutral safety switch that prevents starting engine in any gear but N(neutral).



TA234414

STARTING ENGINE AT TEMPERATURES BELOW 500F (10°C) - CONTINUED

6. Press ENGINE START button (1). As soon as engine starts turning, operate FUEL PRESSURE primer pump handle (2) to maintain 80 to 100 psi of fuel pressure, as indicated on FUEL PRESSURE gage (3). Release ENGINE START button (1) as soon as engine starts.

CAUTION

If no indication of oil pressure is observed on OIL PRESSURE gage (4) after engine is running for 5 seconds, shut down engine immediately to prevent serious engine damage.

To prevent engine damage, do not accelerate engine above 640 rpm for the first 5 to 10 minutes after starting or until WATER TEMP gage indicates 140°F.

Check that all gages indicate pressures and temperatures as given in steps 8 thru 14 after engine has warmed. If any indications differ from readings given, shut down engine and notify Organizational Maintenance.

7. After engine starts, continue pumping FUEL PRESSURE priming pump (2) slowly to keep engine idling smoothly and maintain idle speed of 640 RPM. Cold weather may require pumping for 4 or 5 minutes or longer.

8. Check that OIL PRESSURE gage (4) indicates between 15 to 30 psi or higher at idle.

9. When engine has warmed and idles smoothly between primer pump strokes, push in and turn to lock FUEL PRIMER PUMP (2) and set GLOW PLUG ON/OFF switch (5) to OFF.

10. Check that WATER TEMP gage (6) indicates between 165° to 195°F. OIL/WATER temperature indicator lamp (7) should be out.

11. Check that TRANSMISSION OIL PRESSURE gage (8) indicates green at 600 rpm. TRANSMISSION PRESSURE indicator lamp (9) should be out.

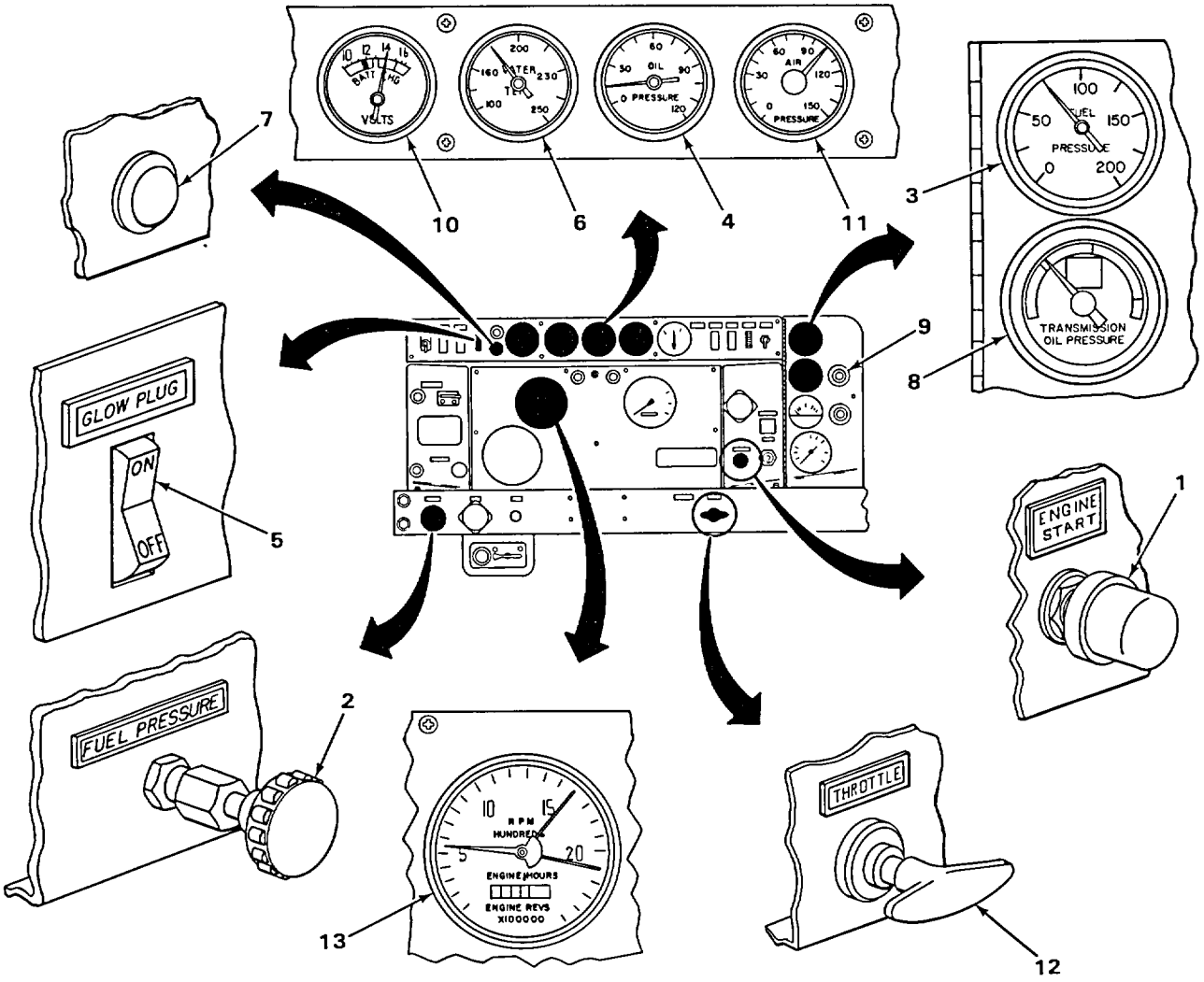
12. Check that BATT CHG VOLTS gage (10) indicates on right side of gage in green CHG area.

13. Check that AIR PRESSURE gage (11) builds up to between 90 and 125 psi.

14. Adjust THROTTLE control knob (12) to maintain idle speed of not more than 640 rpm as indicated on tachometer (13).

15. Dump truck is now ready for operation.

STARTING ENGINE AT TEMPERATURES BELOW 50°F (10°C) - CONTINUED



DRIVING

RESPONSIBILITIES

As a driver, your responsibility in keeping the dump truck in safe operating condition and maintaining its mechanical efficiency is dependent upon your skill and knowledge of vehicle care and operation. You must be continuously alert for any unusual noises, odors, abnormal indicator lamp and gage indications, braking or steering problems, or any other indication of vehicle malfunctions.

TA234415

DRIVING - CONTINUED

IDLING AND OVERLOADING OF ENGINE

Long periods of idling and overloading of engine should be prevented whenever possible. Follow steps listed below to ensure a long service life of the dump truck.

1. Idle engine 3 minutes before shutting it down to prevent damage to turbocharger.

2. Long periods of idling can be damaging to engine. When engine is idled for long periods of time, engine may cool down below normal operating temperatures. This causes condensation, carbon formation, and oil breakdown. For long periods of idling, keep engine running at 800 rpm.

3. When dump truck is accelerated to full throttle and engine cannot go up to governed engine speed (2100 rpm), engine is overloaded. To avoid overloading engine, select a gear that will allow engine to accelerate to, or maintain, governed rpm when advancing to full throttle.

4. There are periods of time when engine is put under excessive strain (overloaded). Always monitor gages for proper operational readings. When engine or transmission temperatures become too high, truck must be allowed to idle in neutral to cool down engine and/or transmission.

CHECKING DUMP BODY TARGET, GAGES, AND INDICATOR LAMPS
0
Dump Body Target

The dump body target (1) indicates to driver when dump body is fully lowered. The dump body target must be in drivers sight and motionless at all times, except when dumping. Any upward movement or absence of dump body target indicates to driver to stop the truck immediately and check dump body.

During operation, the operator must continuously monitor gages for abnormal indications. When dump truck is cold, oil pressures always indicate higher and temperatures always indicate lower. As dump truck warms, oils thin, causing pressures to decrease and temperatures to increase to operating ranges. For this reason, it is important to allow dump truck to warm up. The following procedures reference gage indications that you, the operator must be familiar with when operating the dump truck. If any abnormal indications are observed, bring dump truck to a safe stop, shut down engine, and notify Organizational Maintenance.

DRIVING - CONTINUED

OIL PRESSURE Gage, Indicator Lamp, and Alarm Bell

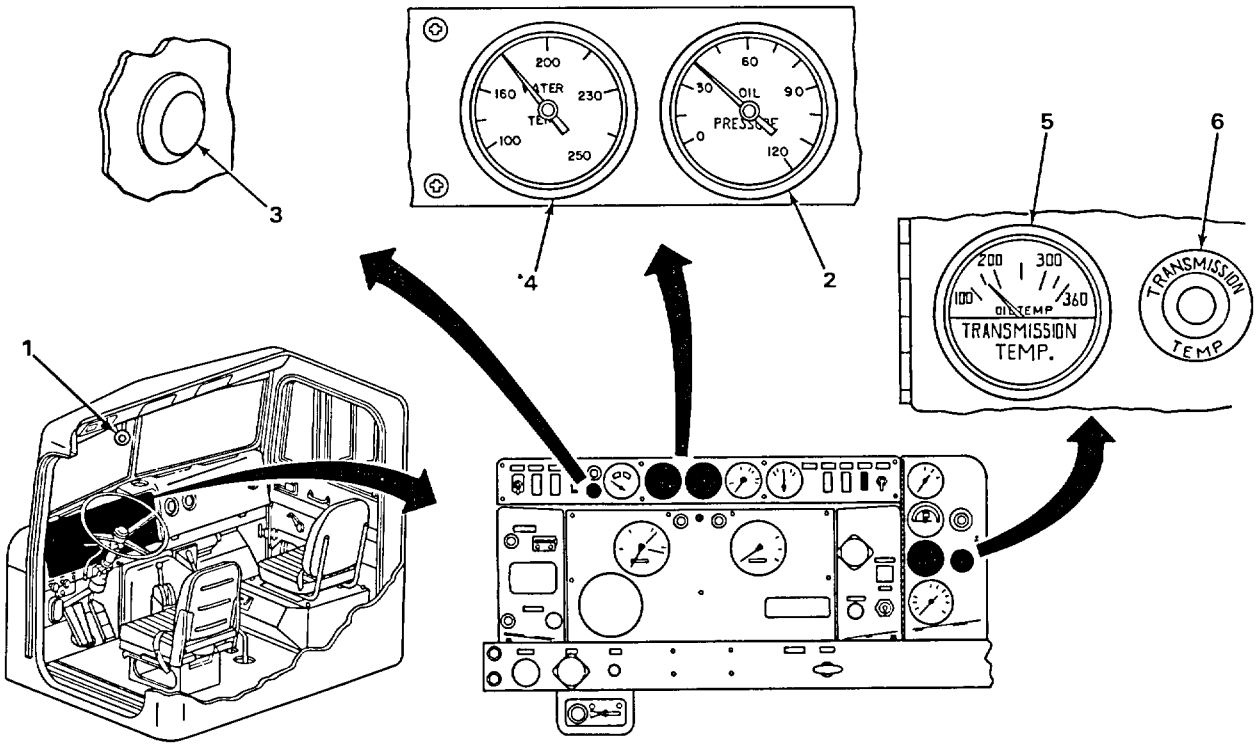
OIL PRESSURE gage (2) indicates lubricating oil pressure. Any sudden drop, excessively high, or erratic change in OIL PRESSURE gage reading indicates a malfunction. OIL PRESSURE gage (2) should indicate between 30 to 75 psi. When OIL PRESSURE gage indicates below 30 psi, oil pressure indicator lamp (3) will light and alarm bell will sound, indicating low oil pressure condition.

WATER TEMP Gage and Indicator Lamp

WATER TEMP gage (4) indicates temperature of coolant in cooling system. WATER TEMP gage (4) should indicate between 165° to 195°F. When coolant temperature goes over 200°F, water temperature indicator lamp (3) will light, indicating a malfunction.

TRANSMISSION TEMP. Gage and Indicator Lamp

TRANSMISSION TEMP. gage (5) indicates transmission oil temperature. TRANSMISSION TEMP. gage (5) should indicate between 180° to 225°F. Under full-load conditions, oil temperature of 250°F for a short period of time is not considered cause for alarm. When transmission oil temperature goes above 250°F, TRANSMISSION TEMP indicator lamp (6) will continue to indicate transmission oil overheating condition.



TA234416

DRIVING - CONTINUED

CHECKING DUMP BODY TARGET, GAGES, AND INDICATOR LAMPS - CONTINUED

AIR PRESSURE Gage, Indicator Lamp, and Warning Buzzer

WARNING

If air pressure drops below 60 psi (414 kPa), warning buzzer will sound and rear brakes will lock, causing dump truck to come to an abrupt stop, which could cause injury to personnel.

AIR PRESSURE gage (1) indicates amount of air pressure in the brake system. AIR PRESSURE gage (1) should indicate between 90 and 125 psi. If air pressure drops below 60 psi, warning buzzer will sound.

TRANSMISSION OIL PRESSURE Gage and Indicator Lamp

TRANSMISSION OIL PRESSURE gage (2) indicates main transmission oil pressure. TRANSMISSION OIL PRESSURE gage should indicate green at 640 rpm. If pressure drops into white, TRANSMISSION PRESSURE indicator lamp (3) will light.

BATT CHG VOLTS Gage

When driving dump truck, BATT CHG VOLTS gage (4) indicates generator system output. BATT CHG VOLTS gage (4) needle should indicate to right side of gage in green CHG area.

FUEL Gage

FUEL gage (5) indicates amount of fuel in fuel tanks.

FUEL PRESSURE Gage

FUEL PRESSURE gage (6) indicates amount of fuel pressure to intake manifold of engine when activating fuel pressure primer pump during cold weather starting. FUEL PRESSURE gage (6) should indicate between 40 to 100 psi.

AIR CLEANER VACUUM Gage

AIR CLEANER VACUUM gage (7) indicates amount of air restriction in air cleaner. When AIR CLEANER, VACUUM gage (7) needle is in red zone, a clogged air cleaner is indicated.

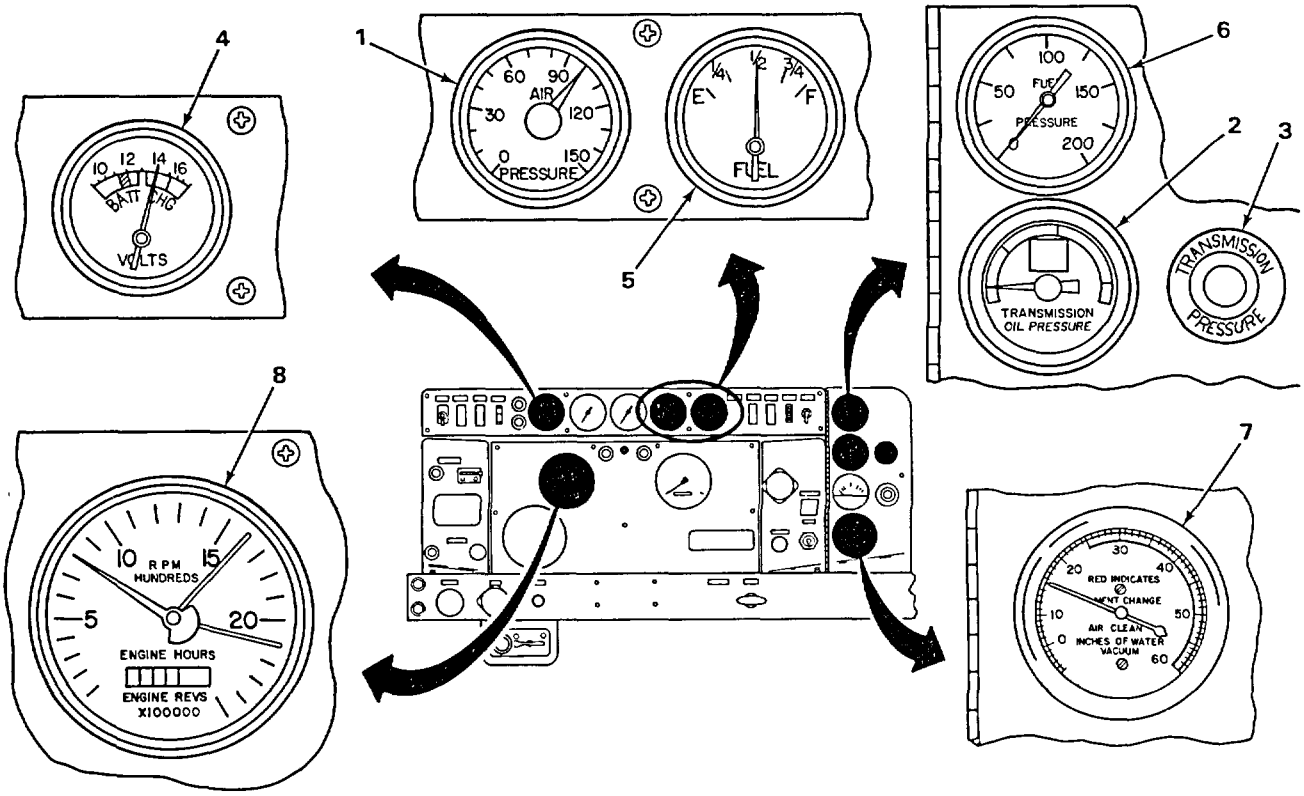
Tachometer

CAUTION

Never allow engine speed to exceed 2100 rpm or serious engine damage could occur.

Tachometer (8) indicates engine revolutions per minute (rpm). Tachometer (8) should indicate between 580 to 2100 rpm.

DRIVING - CONTINUED



MAIN AND AUXILIARY TRANSMISSION GEAR RANGES

Using the main transmission with the auxiliary transmission, the operator has 18 gears available: 15 forward drive gears and 3 reverse drive gears. Under certain road, traffic, and load conditions, any one of these drive ranges may be used to operate the dump truck safely to achieve maximum engine power. Use speed range chart given on page 2-48 to determine maximum road speeds in each gear range combination.

CAUTION

Allowing dump truck to coast in neutral is not recommended. This practice can cause severe damage to transmission. Engine braking is not available during a neutral coast.

NOTE

To obtain maximum power, always select a drive range that will allow engine to operate as close as possible to maximum governed engine speed of 2100 rpm.

TA234417

DRIVING - CONTINUED

MAIN AND AUXILIARY TRANSMISSION GEAR RANGES - CONTINUED

SPEED RANGE CHART

	GEARS				MAX ROAD SPEED AT 2100 ENGINE RPM
	MAIN	AUX			
Overdrive					
	5th	O.D.			41.9
	4th	at			33.7
	3rd	0.75			27.0
	2nd	to			22.1
	1st	1			13.1
	Stall			0	
Direct Drive					
	5th	D			31.4
	4th	at			25.3
	3rd	1.00			20.3
	2nd	to			16.6
	1st	1			9.8
	Stall			0	
Underdrive					
	5th	U.D.			13.2
	4th	at			10.6
	3rd	2.38			8.5
	2nd	to			7.0
	1st	1			4.1
	Stall			0	
Reverse					
	Rev	O.D.			5.3
	Rev	D			3.9
	Rev	U.D.			1.6

DRIVING - CONTINUED

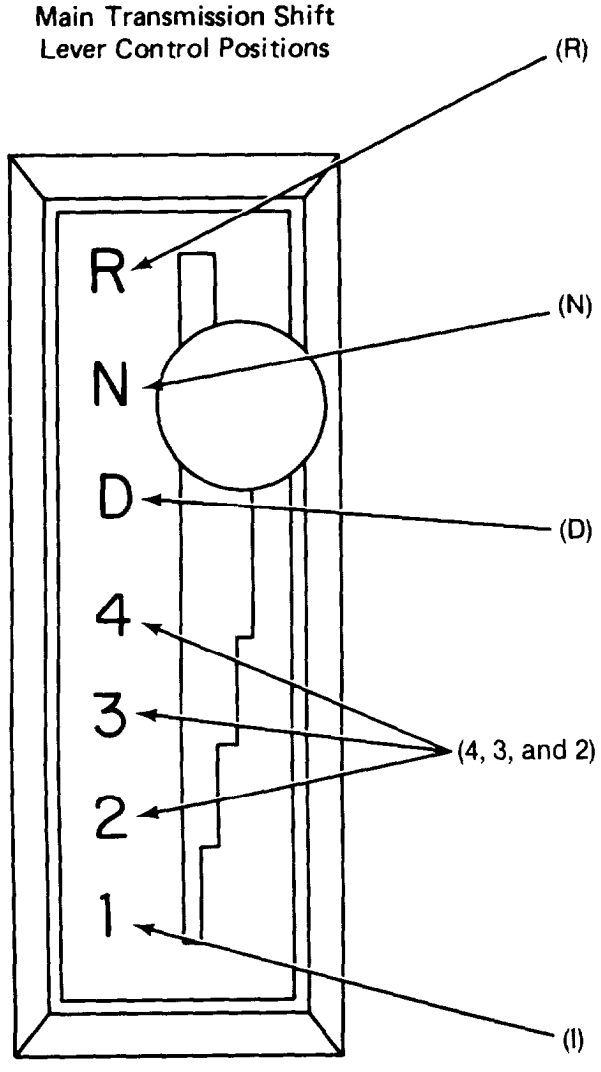
MAIN AND AUXILIARY TRANSMISSION GEAR RANGES - CONTINUED

SPEED RANGE CHART

	GEARS MAIN AUX	RATIOS MAIN AUX	OAG RATIO AT 8.31:1	MAX ROAD SPEED AT 2100 ENGINE RPM
Overdrive				
	5th O.D.	1.00 x 0.75	6.23	41.9
	4th at	1.24 x 0.75	7.73	33.7
	3rd 0.75	1.55 x 0.75	9.66	27.0
	2nd to	1.89 x 0.75	11.78	22.1
	1st 1	3.19 x 0.75	19.88	13.1
	Stall	7.02 x 0.75	43.74	0
Direct Drive				
	5th D.	1.00 x 1.00	8.31	31.4
	4th at	1.24 x 1.00	10.30	25.3
	3rd 1.00	1.55 x 1.00	12.88	20.3
	2nd to	1.89 x 1.00	15.71	16.6
	1st 1	3.19 x 1.00	26.51	9.8
	Stall	7.02 x 1.00	58.32	0
Underdrive				
	5th U.D.	1.00 x 2.38	19.78	13.2
	4th at	1.24 x 2.38	24.53	10.6
	3rd 2.38	1.55 x 2.38	30.66	8.5
	2nd to	1.89 x 2.38	37.38	7.0
	1st 1	3.19 x 2.38	63.10	4.1
	Stall	7.02 x 2.38	138.82	0
Reverse				
	Rev O.D.	7.97 0.75	49.65	5.3
	Rev D.	7.97 1.00	66.23	3.9
	Rev U.D.	7.97 2.38	157.65	1.6

DRIVING - CONTINUED

Main Transmission Shift Lever Control Positions



(R) Use this for backing dump truck. Dump truck should be completely stopped before shifting from forward gear to reverse gear or from reverse to forward. The reverse warning signal is activated when shift lever control is in this position. Reverse operation provides dump truck with its greatest traction.

(N) Use this position when you start the engine. Neutral position also is used during stationary operation of power takeoff (pto). Use neutral when dump truck will be left unattended while engine is running. Be sure to apply parking brake.

(D) Use this for all normal driving conditions. Dump truck will begin to move in first gear, and as vehicle speed is increased transmission will upshift to second, third, fourth, and fifth gear automatically. As dump truck slows down, transmission will downshift to correct gear, automatically.

(4, 3, and 2) Occasionally, road, traffic, or load conditions will make it desirable to restrict automatic shifting to a lower range. When conditions improve, return shift control lever to normal driving position (D). These positions also provide progressively greater engine braking power (the lower the gear range, the greater the engine braking power).

(1) This is low gear; use it when driving through poor terrain conditions such as mud or snow or when driving up steep grades. This position also provides maximum engine braking power.

NOTE

In lower gear ranges (1, 2, 3, and 4), transmission will not upshift above highest gear selected unless maximum governed engine rpm is exceeded.

TA234418

DRIVING - CONTINUED

MAIN AND AUXILIARY TRANSMISSION GEAR RANGES - CONTINUED

Auxiliary Transmission Shift Lever Control Positions

The auxiliary transmission, used in conjunction with the main transmission, provides additional gear ratios. According to the road and load conditions, the operator can combine the gear ratios of the main and auxiliary transmissions to obtain the most efficient operation of the dump truck.

CAUTION

To prevent serious damage, never shift auxiliary transmission while dump truck is in motion. Always bring dump truck to a complete stop before shifting auxiliary transmission.

To prevent equipment failure, a loaded vehicle should never be started with auxiliary transmission in O.D. (overdrive) position when auxiliary transmission is used in combination with main transmission.

NOTE

Auxiliary transmission must be placed in one of the driving positions (U.D., D., O.D.) before power can be transferred to rear wheels.

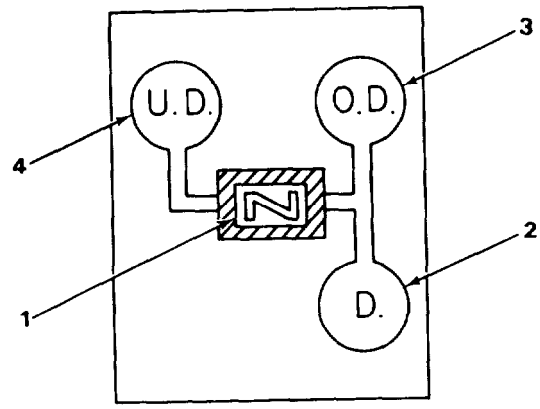
1. N (neutral) position (1) is used when starting engine. This position also is used during stationary operation of pto. Use neutral when dump truck will be left unattended with engine running. Be sure to apply parking brakes.

2. D. (direct drive) position (2) does not change gear ratio provided by main transmission. This position is used when gear ratios in main transmission are adequate to handle dump truck operation.

3. O.D. (overdrive) position (3) is used for highway operation to obtain increased road speeds. This position also helps to increase fuel economy by lowering engine rpm.

4. U.D. (underdrive) position (4) is used for additional power and traction when dump truck is carrying a heavy load, driving up a steep grade, or driving through poor terrain such as mud or snow. This position also increases engine braking power.

DRIVING - CONTINUED



POWER DIVIDER (INTERAXLE DIFFERENTIAL)

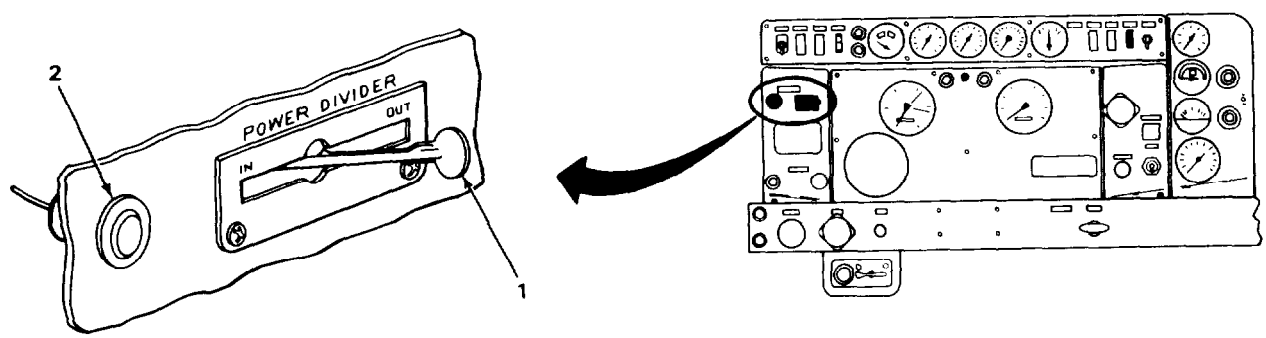
The dump truck is equipped with a power divider that is used to transmit equal power (torque) to both rear axle assemblies. The power divider is used to provide more power when carrying a heavy load, driving up a steep grade, through poor terrain such as mud or snow, or when rear wheels are slipping due to loss of traction.

CAUTION

To prevent damaging rear axle assemblies, never engage or disengage POWER DIVIDER IN/OUT control while dump truck is in motion or when rear wheels are slipping due to loss of traction. Bring dump truck to complete stop before engaging or disengaging POWER DIVIDER IN/OUT control.

1. For normal driving on hard surface roads, POWER DIVIDER IN/OUT control (1) should be in OUT position.

2. To engage power divider, bring dump truck to complete stop and place POWER DIVIDER IN/OUT control (1) to IN position. Power divider indicator lamp (2) will light when both rear axles are engaged.

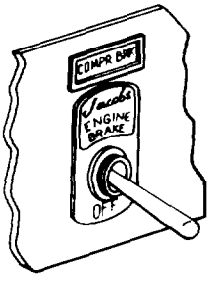


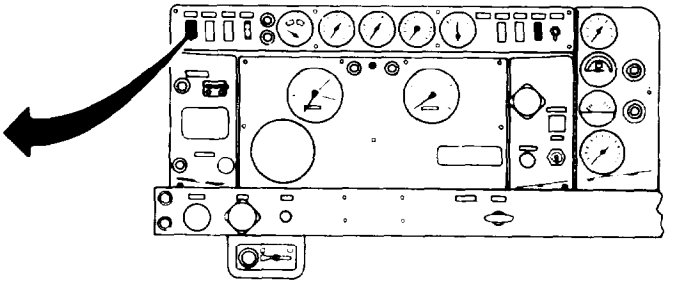
TA234419

DRIVING - CONTINUED

USING ENGINE COMPRESSION BRAKE FOR BRAKING

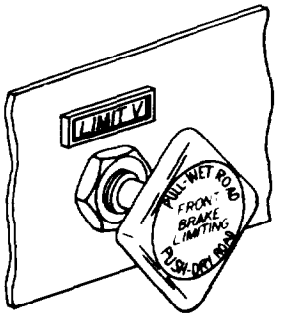
In addition to service brakes, the dump truck utilizes a braking device, known as a compression brake (COMPR BRK), to reduce wear on service brake system. When set to ENGINE BRAKE position, the compression brake uses engine compression to slow down dump truck. When accelerator pedal is released, compression brake automatically engages and slows down dump truck. The compression brake is used while going downhill to control speed or in traffic to stop excessive use of service brakes. Using compression brake prevents draining air supply from service brake system and leaves service brakes in reserve for emergency stops.

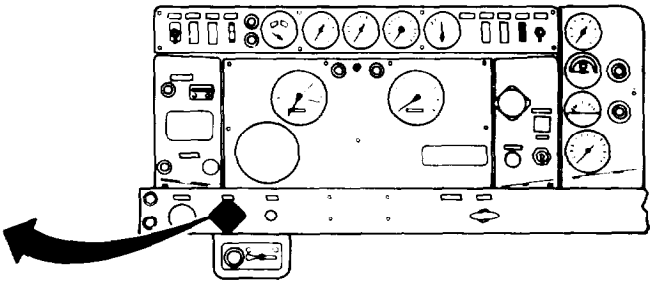




FRONT BRAKE LIMITING VALVE

The FRONT BRAKE LIMITING valve (LIMIT V) enables driver to set front wheel braking power in accordance with varying road and load conditions. When operating dump truck unloaded or over slippery roads, pull out FRONT BRAKE LIMITING valve. This limits maximum air pressure admitted to front brakes. Push in FRONT BRAKE LIMITING valve when operating with a full load or over dry roads. This allows maximum air pressure to front brakes.





TA234420

DRIVING - CONTINUED

DRIVING HABITS

The techniques of good driving are briefly described in the following. Review this information and use it in your daily operations so you avoid developing bad or unsafe habits. See FM 21-305 for additional driving information.

Driving Positions

1. Sit in an erect, comfortable position. Adjust seat, if necessary (page 2-35), so you can reach and operate vehicle controls, and have a clear view in front of you and in rearview mirrors.
2. Adjust rearview mirrors.
3. Fasten seatbelts.

Steering Dump Truck

1. Use both hands to steer dump truck. Grip steering wheel firmly, but not tightly.
2. Always round a corner or make turns at low speed, being ready for possible errors or unsafe maneuvers by other drivers or pedestrians.
3. Change lanes gradually. Do not turn sharply. Use turn signals and look for traffic that may be coming up behind you.

Using Brakes

1. Always stop dump truck smoothly and slowly.
2. Stopping quickly from high speed may cause dump truck to skid. If you must stop quickly, fully apply brake pedal, release it, and reapply in a pumping action. Pumping brake pedal gives dump truck better traction as vehicle slows down.
3. Always maintain a safe distance from vehicle in front of you. A safe rule to follow is 20 feet (6 m) for each 10 miles per hour (16 km/h) traveling speed.

DRIVING - CONTINUED

DRIVING HABITS - CONTINUED

Speed

1. Watch your speed and observe posted speed limits.
2. The following factors can affect your speed:
   a. Type and condition of road surface.
   b. Ice, snow, rain, leaves, or mud on the road.
3. Road conditions are constantly changing as you drive. Be aware of roadside communities and school zones.
4. Nothing is more important to safe driving than careful control of your speed. By staying at speed limits, you are conserving fuel and decreasing wear and tear on your vehicle.

Operate Dump Truck Safely

1. Always signal your intentions when you are going to make a turn, change lanes, or slow down.
2. Operate your vehicle in accordance with road regulatory or warning signs.
3. Before putting dump truck in motion, carefully check traffic conditions, particularly the immediate front and rear of your vehicle, to ensure no persons or objects are in your path of travel.

NIGHT TIME OPERATION

Darkness decreases vision, which increases danger. At night, even with good headlights, a driver can only see a few hundred feet ahead. See FM 21-305 for additional information.

1. A clean windshield is necessary to reduce reflection from oncoming vehicle headlights.
2. Make sure all marker lights are working so dump truck can be seen from all angles.
3. Never leave headlights on when parking.
4. When required, turn on marker/taillights.

Pages 2-53 and 2-54 are rescinded.

HILL DRIVING

The engine works hardest when moving a load up a grade. Selection of gear range (page 2-47), driving habits, and braking play an important role in hill driving. The following procedures will prevent overloading the engine.

CAUTION

Governed speed of engine is 2100 rpm. Never allow load to push dump truck past governed speed or serious engine damage could occur. Use engine compression brake in combination with gear ranges to keep engine under governed speed.

When using engine compression brake, never allow engine to drop below 1100 rpm to prevent transmission clutches from disengaging. This causes a loss of engine braking.

Never turn key switch off while going downhill. With engine still in gear, fuel pressure will build up against shutdown valve and may prevent it from opening when key switch is turned on.

DRIVING - CONTINUED

HILL DRIVING - CONTINUED

1. When approaching an upgrade, press accelerator pedal all the way down and keep it there as truck moves up grade. If there is enough power to maintain engine speed, remain in that gear.
2. When approaching a downgrade, select a gear to maintain engine speed of 1700 to 1900 rpm.
3. If hill causes engine speed to steadily decline, downshift to a lower gear when engine drops below 1700 rpm.
4. When using engine compression brake going downhill, apply service brakes, when necessary, to control engine and road speed.

PUTTING DUMP TRUCK IN MOTION

WARNING

To release brakes, 60 psi (414 kPa) air pressure is required, and 90 to 120 psi (621 to 827 kPa) air pressure is needed for normal driving. Low air pressure could cause brakes to lock. Damage to equipment and injury to personnel could result from moving dump truck with low air pressure.

Be careful when driving or dumping fully loaded dump truck. Truck could tip over causing injury to personnel and damage to equipment.

Before moving dump truck, make sure all gages, indicators, engine, and all vehicle functions have been safety checked, set, or adjusted.

Before putting vehicle in motion be sure that:

1. All PMCS procedures (page 2-12) have been performed.
2. Engine starts (page 2-36) and gages read properly (page 2-37 or 2-40).
3. All safety devices are secured.
4. Driver's seat is properly adjusted and seatbelts are secured.
5. Area around dump truck has been checked for traffic conditions, particularly immediate front and rear of truck.

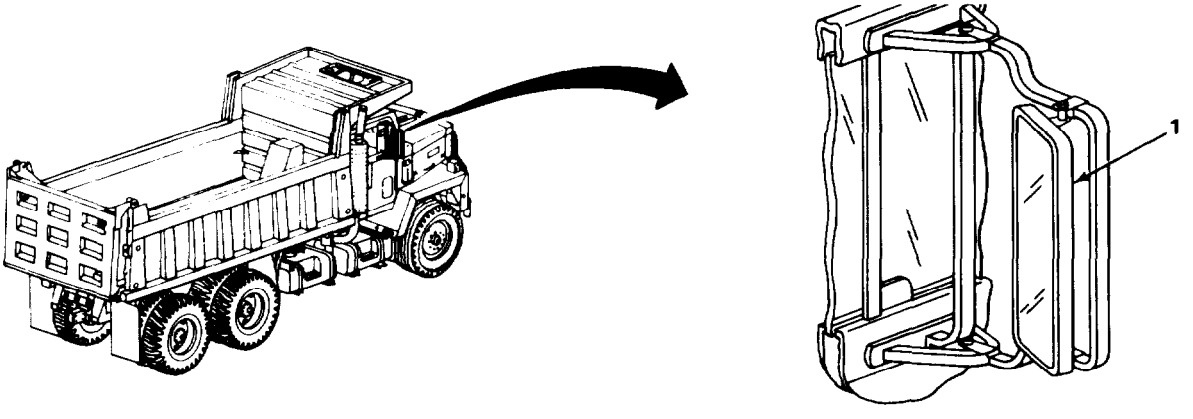
PUTTING DUMP TRUCK IN MOTION - CONTINUED

REVIEWING DRIVING GUIDELINES

1. Avoid long engine idling. If long idling is necessary, keep engine running at 800 rpm.
2. Highway cruising range is 1700 to 1900 rpm.
3. City operating range is 1600 to 1800 rpm.
4. Never allow load to push dump truck over governed engine speed (2100 rpm).
5. Wait for shift points when downshifting on grades.

CONTROL SELECTION

1. Adjust rearview mirrors (1).



2. Set POWER DIVIDER IN/OUT control to IN or OUT position as required (page 2-51).
3. Set FRONT BRAKE LIMITING valve to PUSH-DRY ROAD or PULL-WET ROAD as required (page 2-52).
4. Set COMPR BRK (ENGINE COMPRESSION BRAKE) to ENGINE BRAKE or OFF as required (page 2-52).
5. Set auxiliary transmission shift lever control to U.D., D., or O.D. as required (page 2-50).
6. Set main transmission shift lever control to position 1, 2, 3, 4, D, N, or R as required (page 2-49).

TA234421

PUTTING DUMP TRUCK IN MOTION - CONTINUED

COASTING, STOPPING, AND BACKING

CAUTION

Never let dump truck coast in neutral. Severe transmission damage can result. Engine braking is not available during a neutral coast.

Never operate engine for more than 30 seconds at full throttle with main transmission in gear and dump truck not moving. This will cause severe damage to drive train.

NOTE

While stopped on a grade and attempting to climb the grade, dump truck will have a tendency to roll backwards. To prevent it from rolling, hold truck in position by pressing left foot on brake pedal. Release PARKING BRAKE (1) and press slightly on accelerator pedal with right foot. As soon as truck starts to move, release brake pedal and accelerate to desired speed.

Backing the dump truck is somewhat difficult as it is harder to control and visibility is poorer than when moving forward. Always have an assistant help guide you.

STOPPING DUMP TRUCK AND SHUTTING DOWN ENGINE

STOPPING

WARNING

Do not pump brake pedal unnecessarily to stop dump truck while going slow. This wastes air pressure when you need it most.

Do not use parking brake to stop dump truck. Rear wheels could lock, causing dump truck to skid, injuring personnel and damaging equipment.

1. Lift foot off accelerator pedal (2) and let reduction in engine speed slow dump truck down.

NOTE

With a full load, allow extra time for stopping to ensure a complete, safe stop.

2. Apply service brake (3) to bring dump truck slowly to a complete stop.

STOPPING DUMP TRUCK AND SHUTTING DOWN ENGINE - CONTINUED

3. When dump truck is completely stopped:

   a. Pull PARKING BRAKE control knob (1) out to engage parking brakes.

   b. Set main transmission shift lever control (4) to N (neutral).

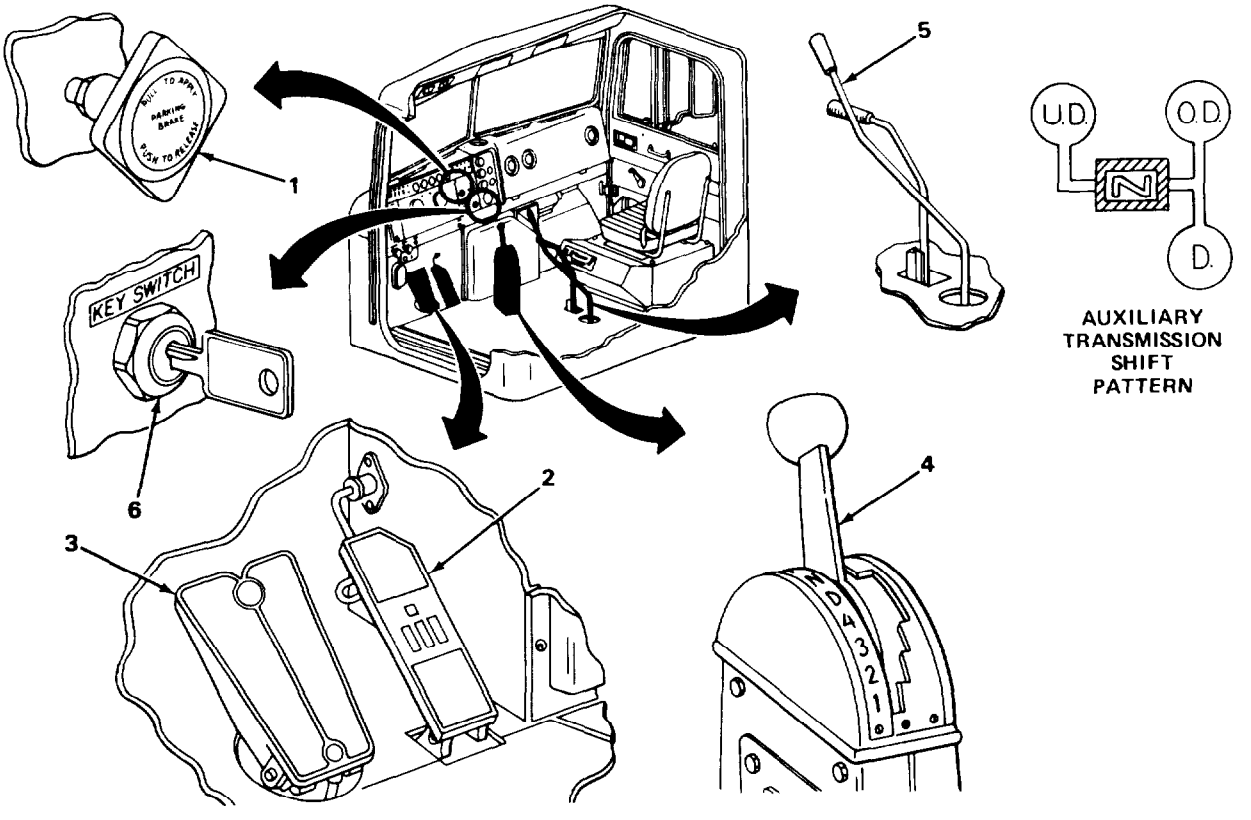
   c. Set auxiliary transmission shift lever control (5) to N (neutral).

SHUTTING DOWN ENGINE

CAUTION

After prolonged engine operation, or using pto, idle engine for 3 to 5 minutes before shutting it down. This allows lubricating oil and coolant to carry away heat from engine and turbocharger. Failure to allow these components to cool can damage engine and turbocharger.

Turn KEY SWITCH (6) to off position (counterclockwise) after allowing engine and turbocharger to cool.



TA234422

PARKING

WARNING

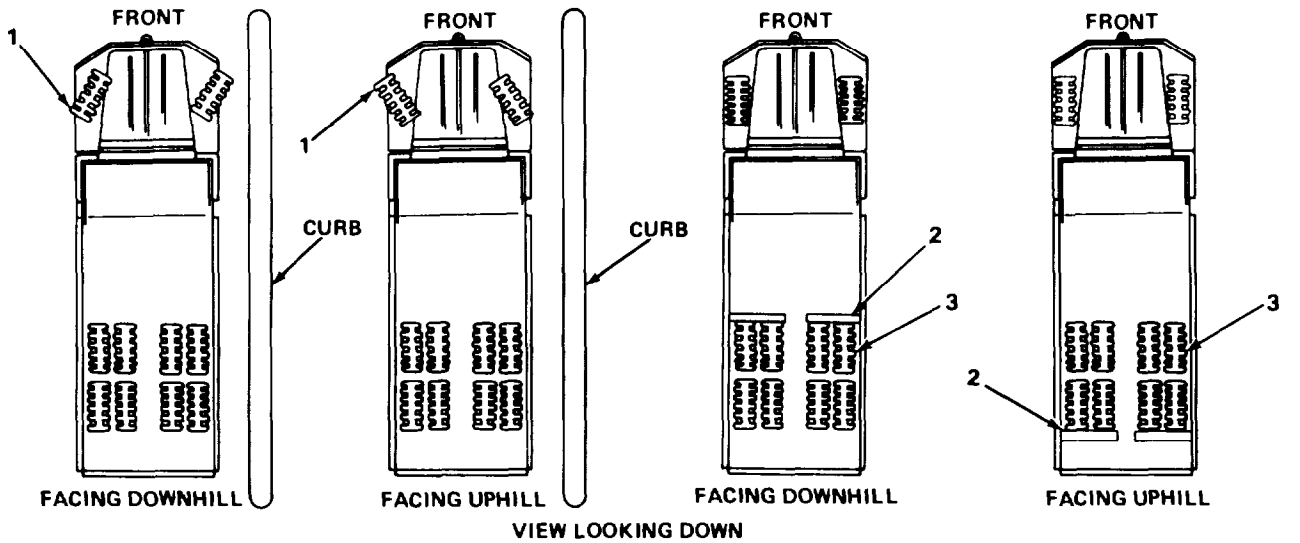
Do not park dump truck on steep grade. If brakes fail and truck begins to roll, severe injury to personnel and damage to equipment could result.

Do not leave dump truck unattended while engine is running.

CAUTION

Always make sure parking brake is applied before you leave dump truck. Do not apply service brakes while parking brake is engaged. Pressing of service brake pedal momentarily releases parking brake.

1. Pull parallel to curb and stop dump truck (page 2-58).
2. If facing downhill, turn front wheels (1) towards curb. If facing uphill, turn front wheels away from curb, allowing rear of front wheels to turn in toward curb.
3. When parking on a grade, do not rely solely on parking brakes to hold dump truck. Position chocks (2) against rear wheels (3), as shown in diagram, for either up- or downhill parking.



TA234423

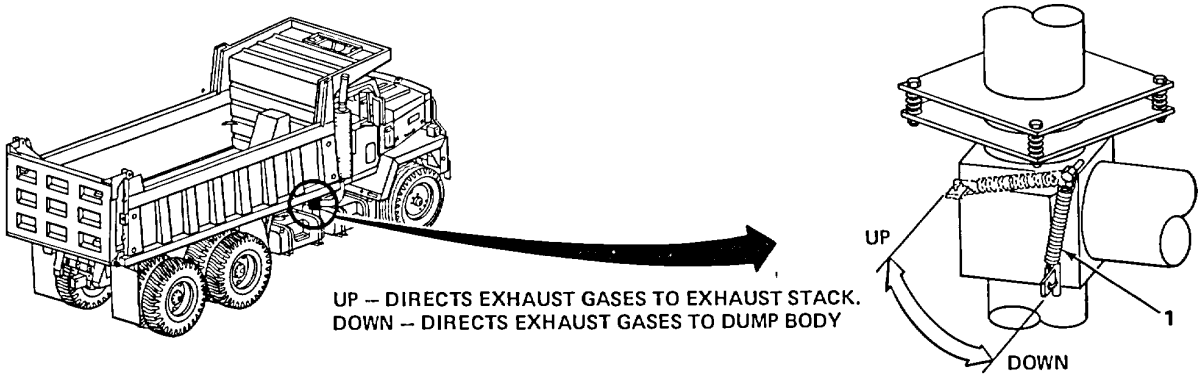
DUMP BODY OPERATION

EXHAUST DIVERTER VALVE

WARNING

Never carry combustible materials in dump body regardless of position of exhaust diverter valve. Excessive heat could cause combustible payload to ignite, causing fire and possible injury.

Place exhaust diverter valve (1) in required position.



FULL LOAD DUMPING PRECAUTIONS TO PREVENT DUMP TRUCK FROM TIPPING OVER

1. Stay clear of fill embankments and soft ground. Do not allow rear axles to drop 19 inches (48 cm) below front axle.
2. Do not allow dump truck to sway more than 12 inches (30 cm).
3. Dumping operation should always be directed by dump site spotter.

WARNING

Be careful of overhead powerlines. Electric shock, injury or death can occur if dump truck body comes in contact with powerlines.

4. Always be aware of overhead obstacles, such as trees and power lines. Dump body raises 19 feet (5.8 m).
5. Never leave pto engaged while driving except when spreading payload.
6. Raise dump body only enough to allow payload to slide out of bed. Maximum dump angle is 50 degrees.
7. Never throw truck into gear or slam tailgate to loosen payload. If payload will not dump at full tilt, lower dump body and get into bed and loosen.
8. Accelerate dump truck slowly while spreading payload. Do not exceed 1500 rpm.

PREPARATION FOR DUMPING OR SPREADING

The pto operates a hoist pump used in raising dump body. The following procedures are for raising dump body to dump payload. Air pressure must exceed 60 psi (414 kPa) to engage pto.

TA234424

DUMP BODY OPERATION - CONTINUED

PREPARATION FOR DUMPING OR SPREADING - CONTINUED

1. Bring dump truck to complete stop.
2. Place main transmission shift lever control (1) in neutral (N) and idle engine.
3. Pull out PARKING BRAKE control knob (2) to engage parking brake.
4. Unfasten seatbelts (page 2-35).
5. Release two tailgate safety chains (3).
6. Remove tailgate release lever safety chain (4) and pull down tailgate release lever (5).
7. Fasten seatbelts (page 2-35).
8. Set P.T.O IN/OUT control (6) to IN position. Indicator lamp (7) should go on.

NOTE

If pto does not engage, perform following steps.

9. Set P.T.O to IN/OUT control (6) to OUT position.
10. Place main transmission shift lever control (1) to drive (D).
11. Set P.T.O IN/OUT control (6) to IN position. Indicator lamp (7) should go on.
12. When pto engages, place main transmission shift lever control (1) to neutral (N).

NOTE

If pto still does not engage, repeat steps 9 thru 12.

When operating in cold weather, 400F (4°C) or below, let pto hoist pump operate several minutes. This will allow hydraulic oil to circulate and warm system. Raise dump body only enough to slide payload out of bed. Maximum dump angle is 50 degrees. Payload usually starts sliding out at 35 degrees and should be all the way out by 40- to 50-degree dump angles. The dump body control lever automatically returns to neutral position when released or at full dump angle.

13. For spreading payload while dumping, see page 2-63.

DUMPING

1. Pull dump body control lever (8) backward to raise dump body. As dump body rises, maintain engine speed of 1500 rpm, gradually reducing engine speed to 800 rpm as dump body goes higher.
2. When payload is fully dumped, release dump body control lever (8) and idle engine.
3. Perform lowering dump body procedure (page 2-64).

DUMP BODY OPERATION - CONTINUED

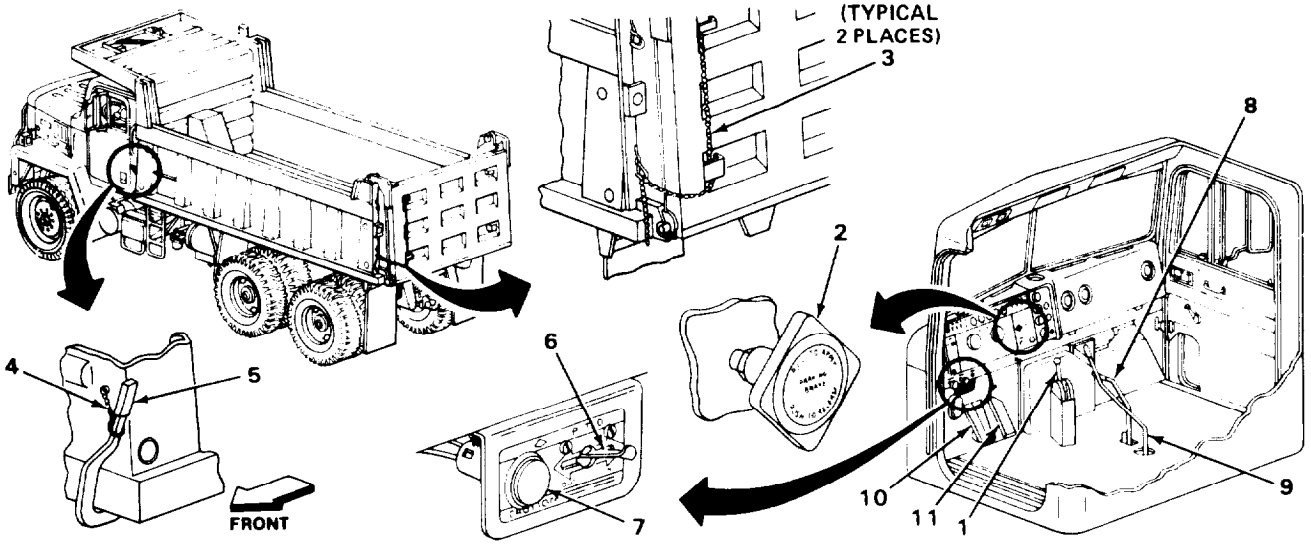
SPREADING PAYLOAD WHILE DUMPING

The dump truck's speed, rate of dump body lift, and guidance of dump site spotter must be coordinated to result in a smooth spread of payload. The payload can be spread in forward or reverse depending on terrain. In spreading trails in hilly terrain, dump payload at top of hill and allow bulldozer to push payload downhill. If hill is not over 15-percent grade, dump truck can dump payload facing downhill.

WARNING

Never spread payload with dump truck facing uphill. Dump truck could tip over backwards injuring personnel and causing damage to equipment.

1. Perform preparation for dumping or spreading (page 2-61).
2. Place auxiliary transmission shift lever (9) in underdrive (U.D.).
3. Step on service brake pedal (10) to hold dump truck in position.
4. Place main transmission shift lever control (1) to drive (D).
5. Push in PARKING BRAKE control (2) and release service brake pedal (10).
6. Step on accelerator pedal (11) to move dump truck. Do not exceed 1500 rpm.
7. While moving, pull dump body control lever (8) backward to raise dump body. As dump body rises, maintain engine speed until payload is fully dumped.
8. Release dump body control lever (8) and bring dump truck to complete stop.
9. Place main transmission shift lever control (1) in neutral (N) and idle engine.
10. Pull out PARKING BRAKE control (2). Perform lowering dump body procedure (page 2-64).



TA234425

DUMP BODY OPERATION - CONTINUED

LOWERING DUMP BODY

WARNING

To prevent injury, make sure all personnel are clear of dump body before lowering.

1. Push dump body control lever (1) forward to lower dump body.
2. Release dump body control lever (1) when dump body target (2) is visible and dump body is fully lowered.
3. Set P.T.O IN/OUT control (3) to OUT position. Indicator lamp (4) should go out.
4. Unfasten seatbelts (page 2-35).
5. Lift tailgate release lever (5) and secure tailgate release lever safety chain (6).
6. Attach two tailgate safety chains (7).
7. Fasten seatbelts (page 2-35) and push in PARKING BRAKE control knob (8) before proceeding with dump truck.

HEATING, VENTILATING, AND DEFROSTING

Operating the dump truck in cold, hot, or humid weather may require using the heating, venting, or window defrosting controls. Use applicable procedure below for operation of heating and venting controls to provide a comfortable temperature in the cab.

HEATING

1. Set AIR - RECIRC/FRESH control lever (1) to FRESH.

NOTE

In extreme cold weather conditions, set AIR - RECIRC/FRESH control lever to RECIRC to recirculate heated air.

2. Adjust AIR OUTLETS - DEF/CAB control lever (2) for desired airflow.

3. Adjust HTR - OFF/HOT control lever (3) for desired heat. Set control lever to extreme right (HOT) position for maximum heat; to extreme left for cold.

4. For maximum airflow, move both FAN - OFF/HI switches (4) to HI. Switches can be operated in any speed combination.

FRESH AIR VENTILATION

1. Adjust HTR - OFF/HOT control lever (3) to OFF position.

2. Set AIR - RECIRC/FRESH control lever (1) to FRESH.

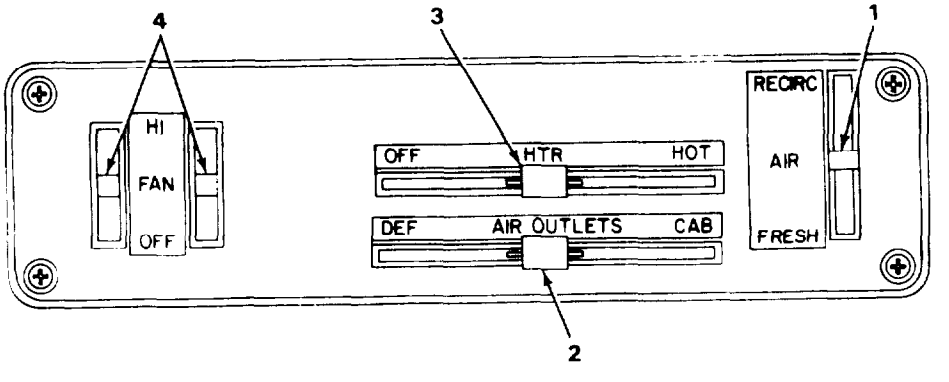
3. Adjust AIR OUTLETS - DEF/CAB control lever (2) to direct airstream as desired.

4. Set FAN - OFF/HI switches (4) to desired positions. Switches can be operated in any speed combination.

DEFROSTING WINDSHIELD

NOTE

To clear the system of humid air, operate blowers for 30 seconds at HI speed before moving AIR OUTLETS lever to DEF. This will minimize rapid fogging of glass, which can occur if humid air is blown onto a cool windshield.

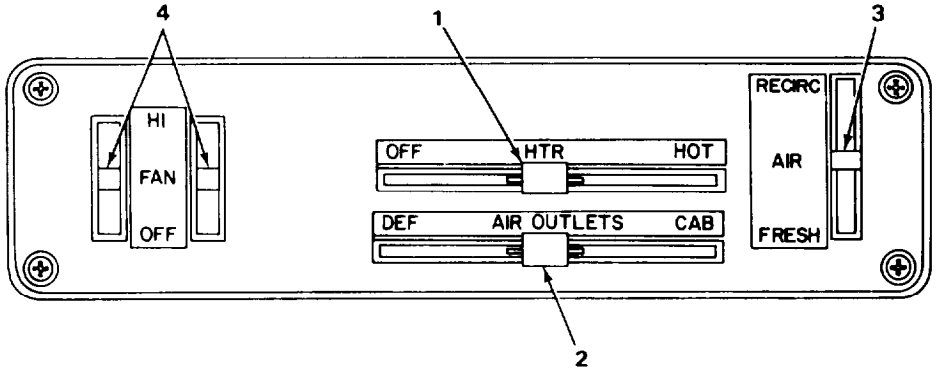


TA234427

HEATING, VENTILATING, AND DEFROSTING - CONTINUED

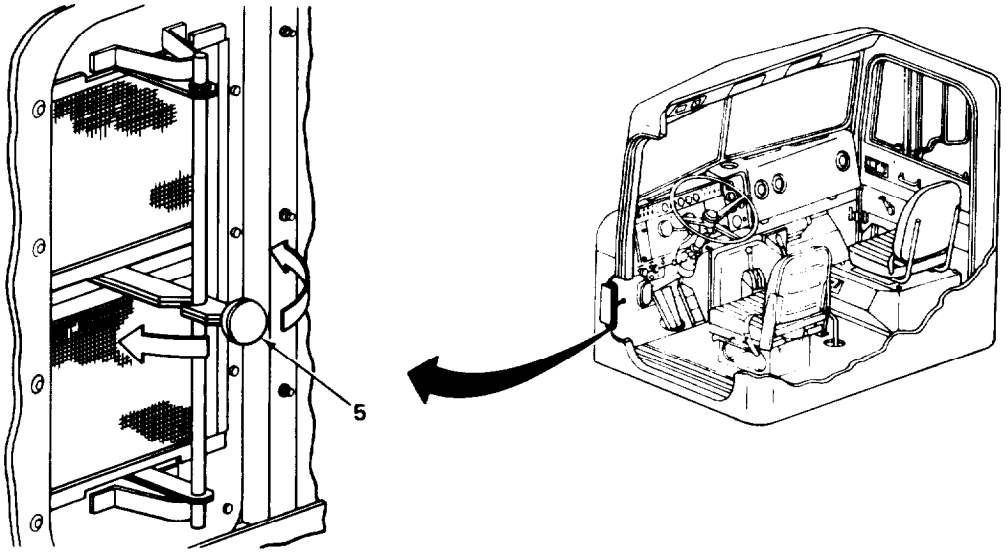
DEFROSTING WINDSHIELD - CONTINUED

1. Adjust HTR - OFF/HOT control lever (1) to HOT position.
2. Adjust AIR OUTLETS - DEF/CAB control lever (2) to DEF position.
3. Set AIR - RECIRC/FRESH control lever (3) to FRESH.
4. Set FAN - OFF/HI switches (4) to desired positions. Switches can be operated in any speed combination.



NOTE

The dump truck also has a fresh air/exhaust ventilator on driver's side under the instrument panel. Push control knob (5) forward to open ventilator door allowing outside air to enter cab. Pull control knob (5) ail the way back to open ventilator door, allowing air to be drawn from cab interior. Placing control knob (5) in center position closes ventilator door.

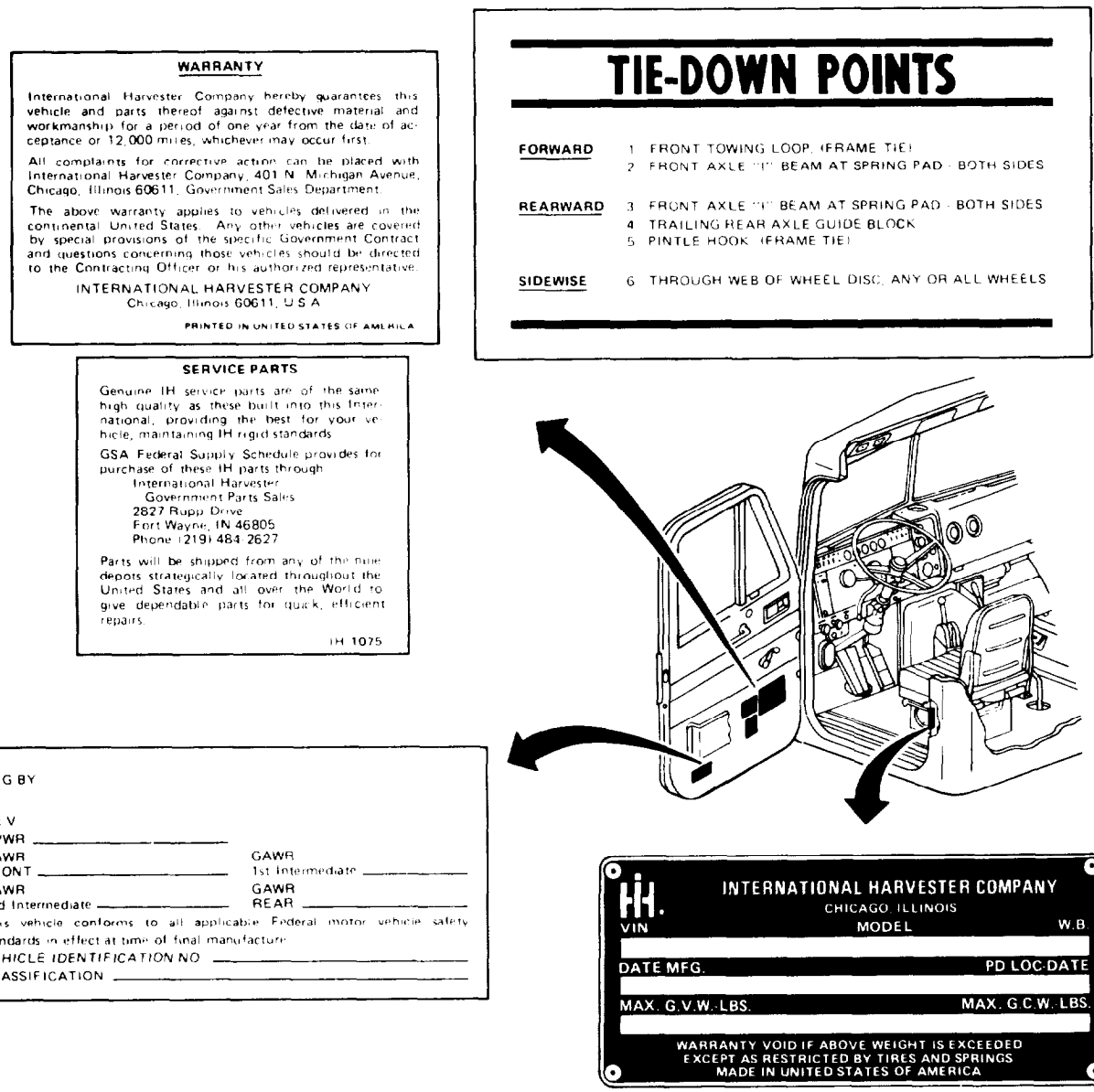


TA234428

OPERATING INSTRUCTIONS ON DECALS AND DATA PLATES

The following illustrations show the location of decals, data plates, and instruction plates on the dump truck. These views are intended to point out to you where each decal on data plate is located. For specific information, see Description and Use of Operator's Controls and Indicators (page 2-1) for applicable control or indicator.

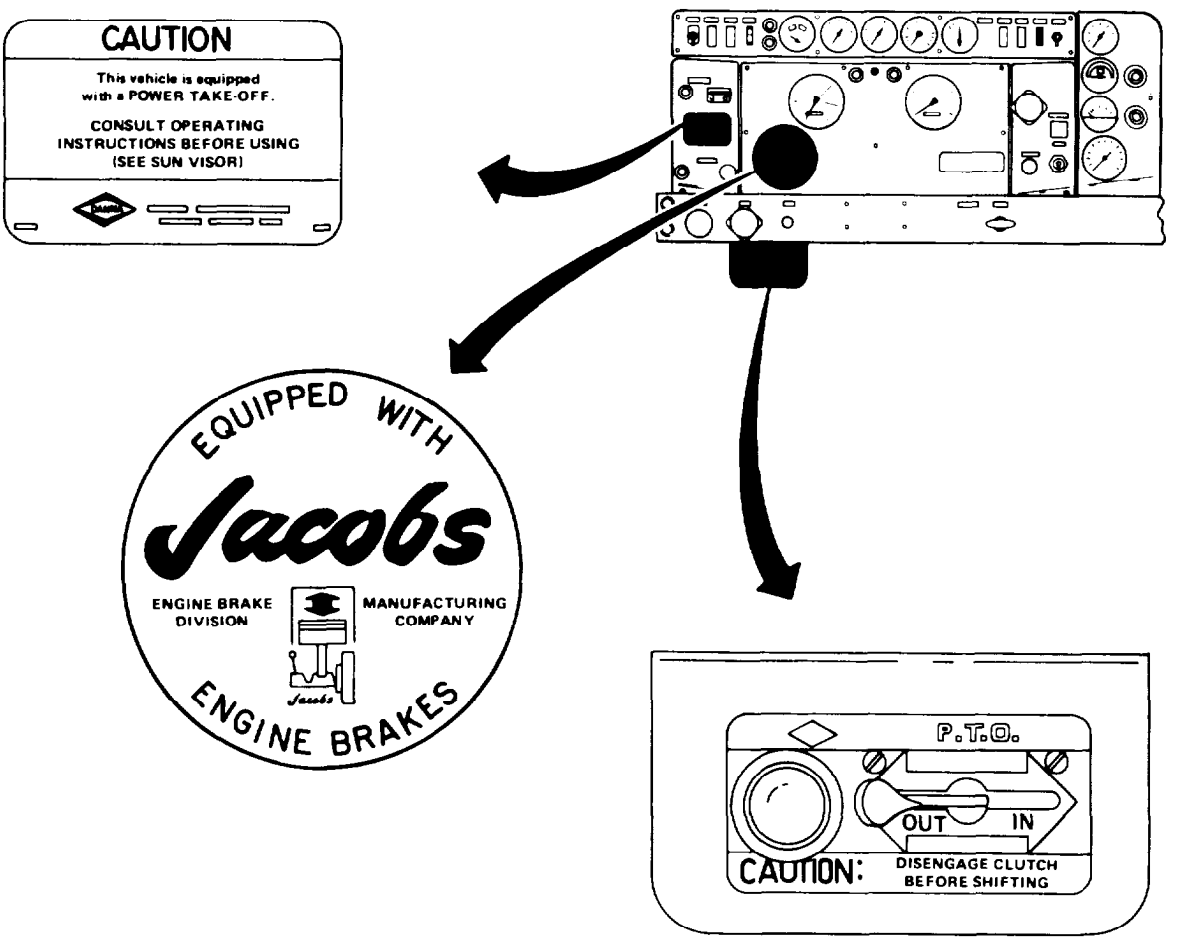
INSIDE ROADSIDE DOOR



TA234429

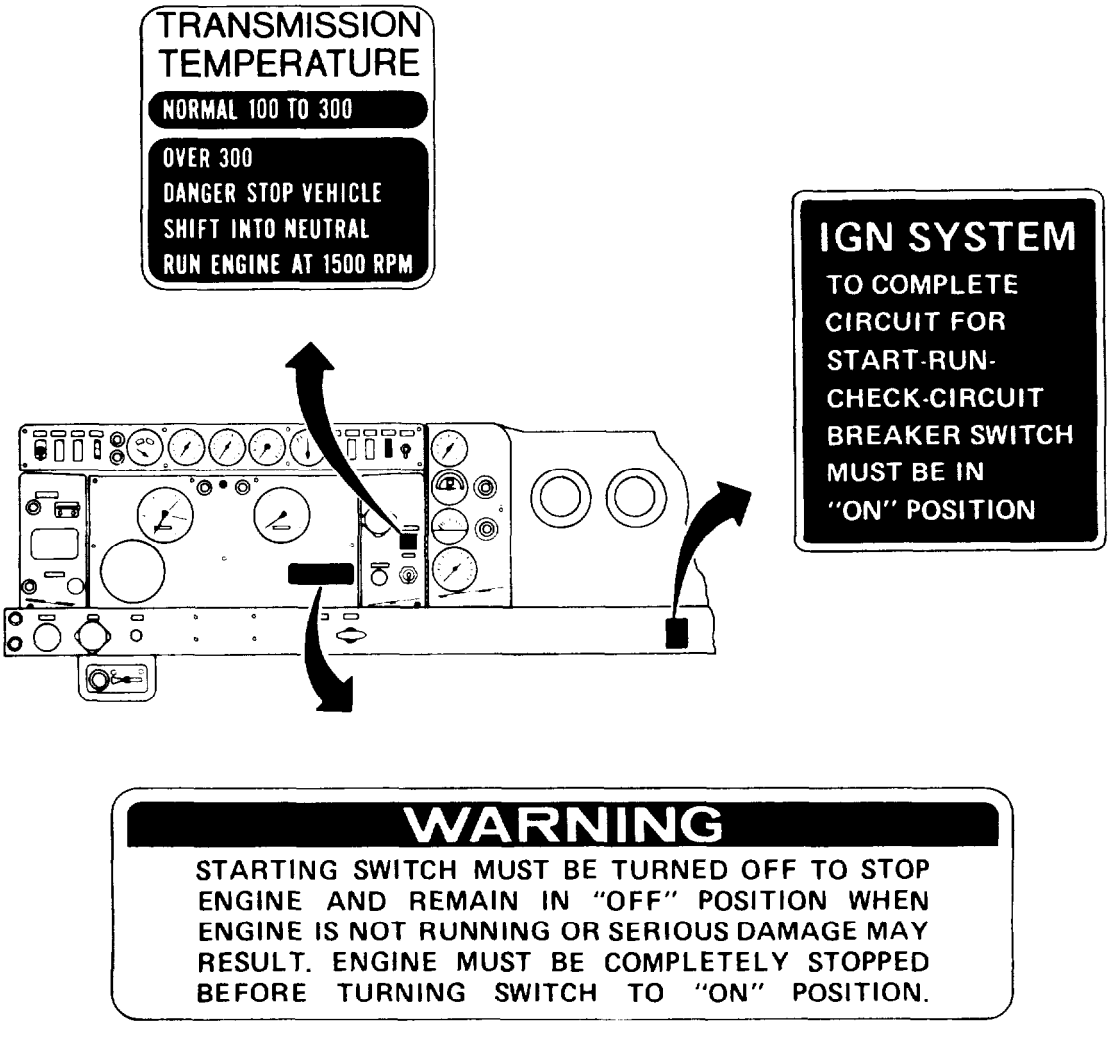
OPERATING INSTRUCTIONS ON DECALS AND DATA PLATES - CONTINUED

INSTRUMENT PANEL



TA234430

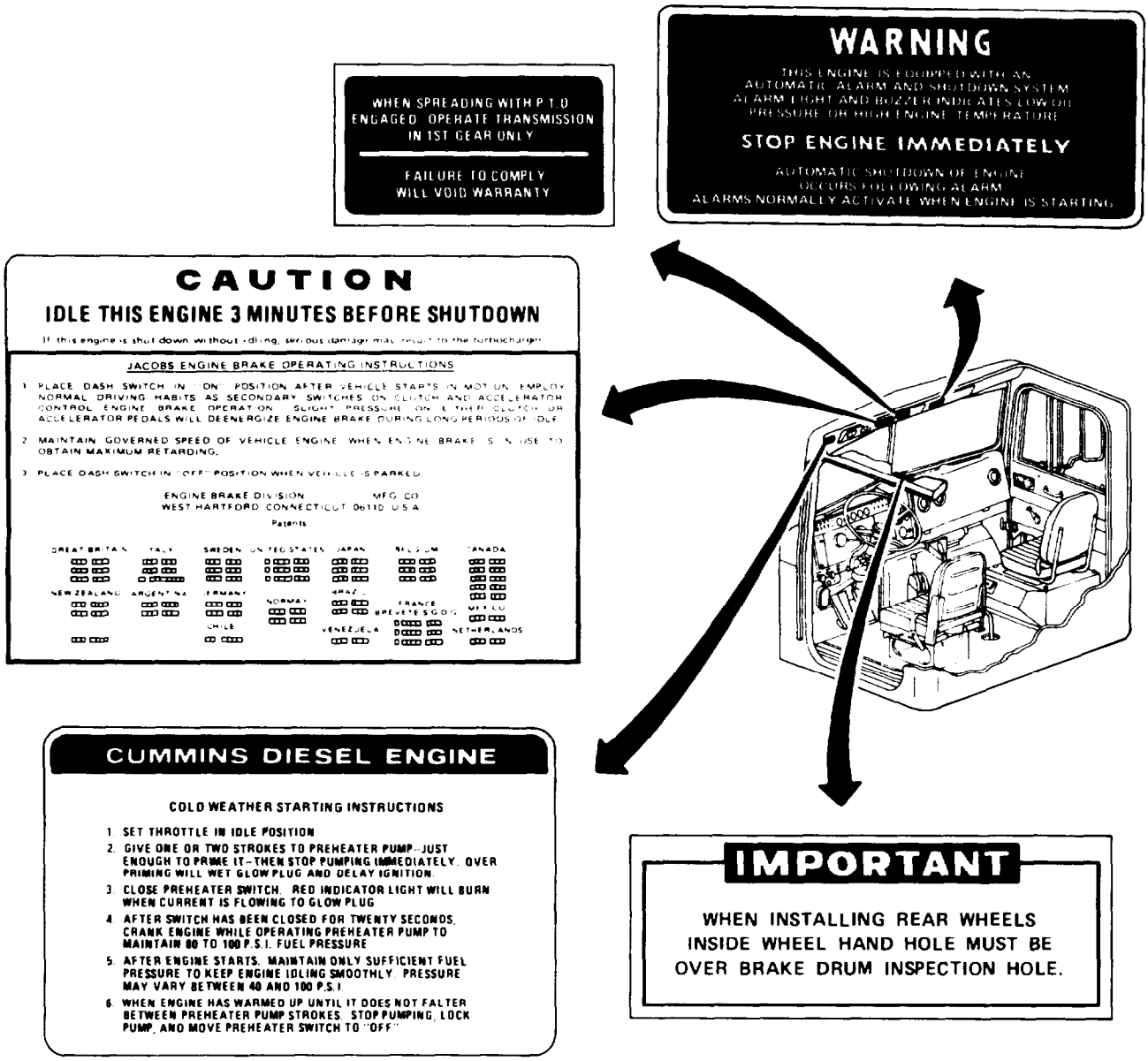
OPERATING INSTRUCTIONS ON DECALS AND DATA PLATES - CONTINUED



TA234431

OPERATING INSTRUCTIONS ON DECALS AND DATA PLATES - CONTINUED

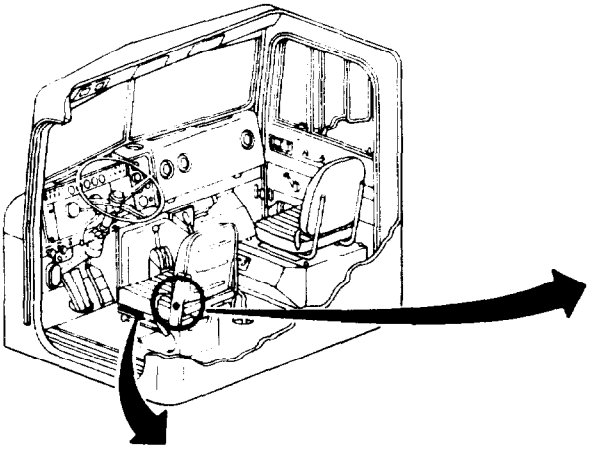
UPPER CAB

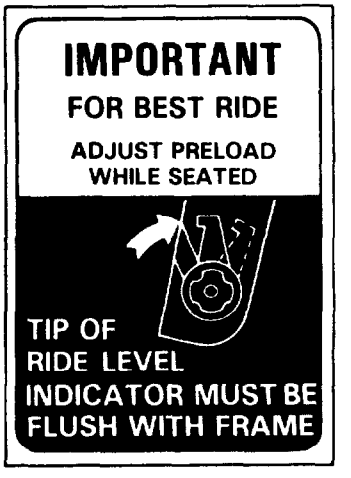


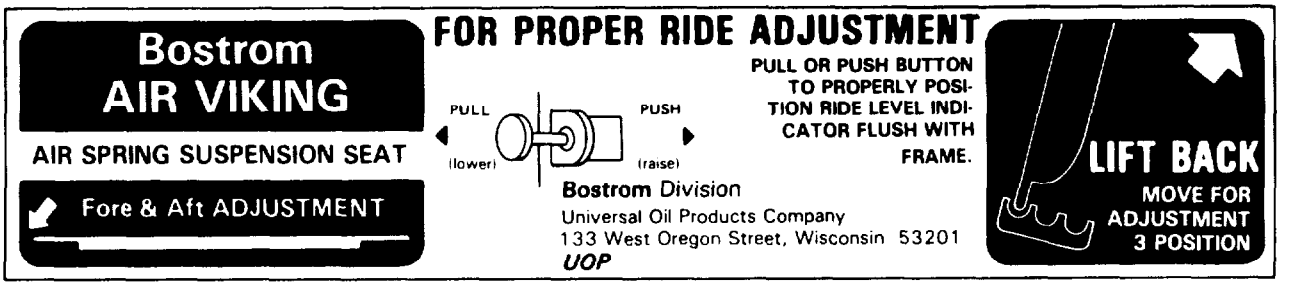
TA234432

OPERATING INSTRUCTIONS ON DECALS AND DATA PLATES - CONTINUED

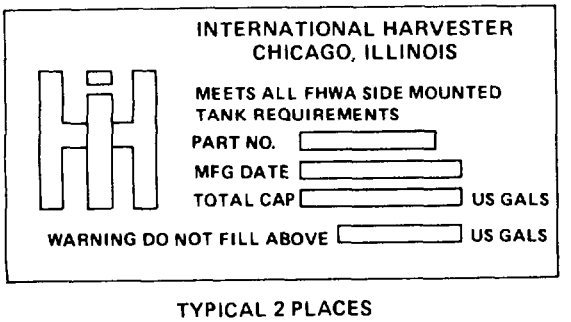
SEAT



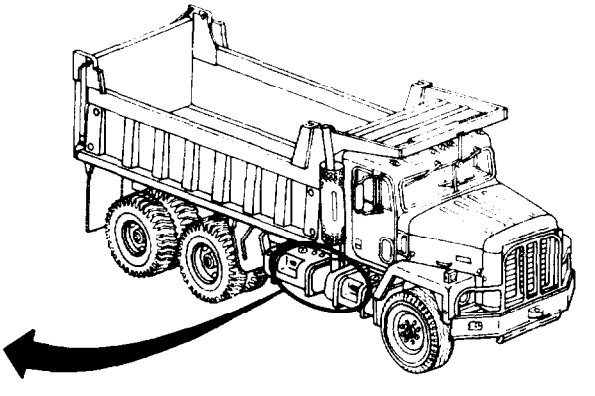




FUEL TANK



TYPICAL 2 PLACES



TA234433

Pages 2-67 through 2-71 are rescinded.

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

OVERVIEW

This section contains many of the unusual conditions that you may have to deal with while operating the dump truck. Read and become familiar with this section and other referenced publications in appendix A.

When operating under unusual conditions, perform PMCS more frequently to ensure proper operating efficiency. Be familiar with Operation Under Usual Conditions (page 2-34).

OPERATION DURING EXTREME COLD

This paragraph contains information needed to operate dump truck in extreme cold temperatures. Cold-weather operation, effects of cold weather, and parking in cold weather are covered in this paragraph. For more information, refer to FM 9-207, FM 31-70, FM 31-71, and TM 750-254 (see appendix A).

EFFECTS OF EXTREME COLD WEATHER

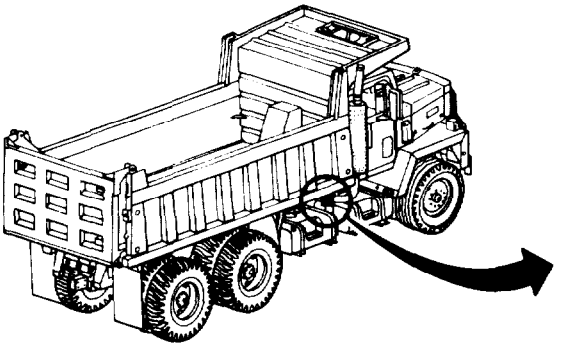
1. Lubricants thicken.
2. Batteries lose power.
3. Electrical insulation can crack and cause short circuits.
4. Metals and other materials become hard and brittle.
5. Cooling system requires extra protection from extreme cold.
6. Fuels, lubricants, and antifreeze solutions require special storage, handling, and use.

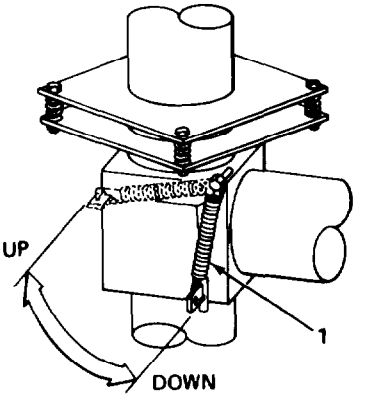
OPERATION DURING EXTREME COLD - CONTINUED

EXTREME COLD WEATHER OPERATION

To ensure proper performance and efficiency, prepare dump truck for cold weather operation as given below.

1. Rotate engine exhaust diverter valve handle (1) downward, diverting exhaust gases, to heat dump body.





NOTE

During extreme cold weather, engine may require additional time to reach operating temperature.

2. Perform Starting Engine at Temperatures Below 50°F (10°C) procedure (page 2-40).

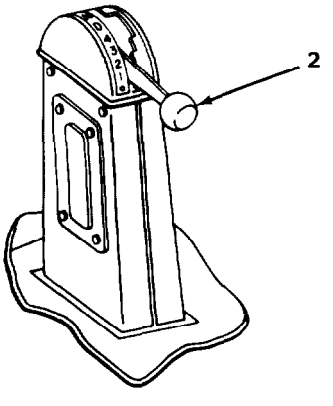
3. Check gages for proper operating readings (page 2-40).

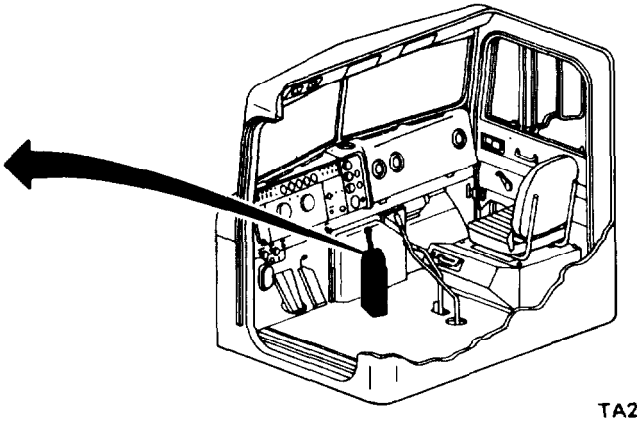
4. Set main transmission shift control (2) to first gear.

NOTE

If truck fails to move from parking area, tires may be frozen to ground or one or more brakeshoes may be frozen and need to be preheated. If preheating is necessary, notify Organizational Maintenance.

5. Accelerate very slowly.





TA234434

OPERATION DURING EXTREME COLD - CONTINUED

EXTREME COLD WEATHER OPERATION - CONTINUED

6. Continue slowly for about 300 feet (92 m) to check for any problems caused by cold weather.

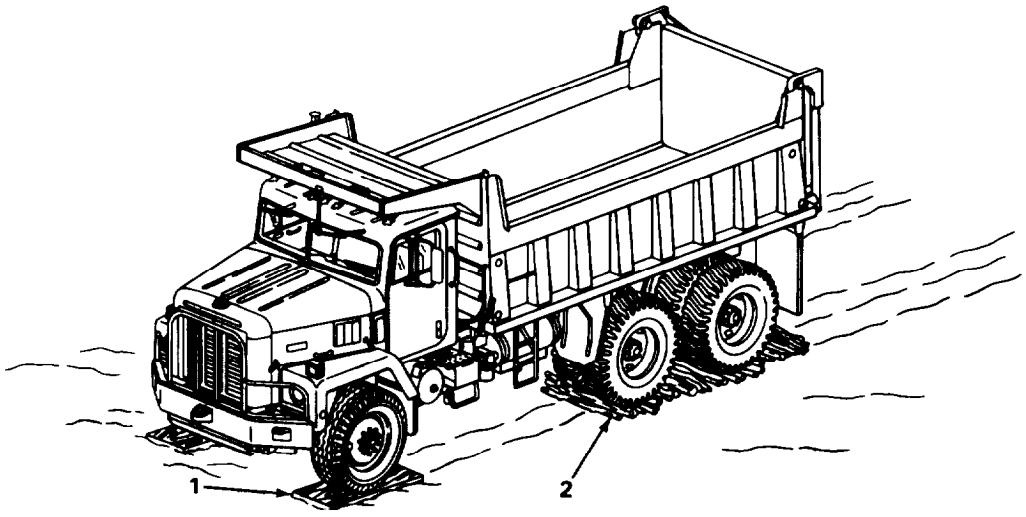
7. Do not allow engine to stall.

PARKING IN EXTREME COLD WEATHER

1. Park in a sheltered area, out of wind, for short shutdown periods. If no shelter is available, park facing away from wind. During daylight operation, try to face cab towards the sun. This will allow sunrays to warm dump truck.

2. For long shutdown periods, try to park on high ground, and use planks (1) or brush (2) under tires to make a raised surface. Keep tires out of snow, water, ice, and mud if possible.

3. Put control levers (transmissions, brakes) in neutral position and chock wheels to guard against freezing in engaged position.



4. Clean off snow, ice, and mud as soon as possible after shutdown.

5. For long time parking, have Organizational Maintenance do the following:

   a. Remove batteries and store them in a warm place. Do not store on concrete or in unventilated area.

   b. Fill fuel tanks to guard against condensation.

   c. Drain moisture from air reservoirs.

   d. Visually check tires for underinflation (see illustration page 3-25).

6. Check cooling system, and have Organizational Maintenance service, if necessary, to ensure protection against extreme cold.

   Refer to FM 9-207 for procedures.

TA234435

OPERATION DURING EXTREME HEAT

This paragraph contains information needed to operate dump truck in extreme heat. Precautions, hot-weather operation, and parking are covered in this paragraph.

PRECAUTIONS TO BE TAKEN IN EXTREME HEAT

Avoid the following conditions:

Continuous high speeds
Long, hard pulls
Continuous use of high gears on steep grades and soft terrain.

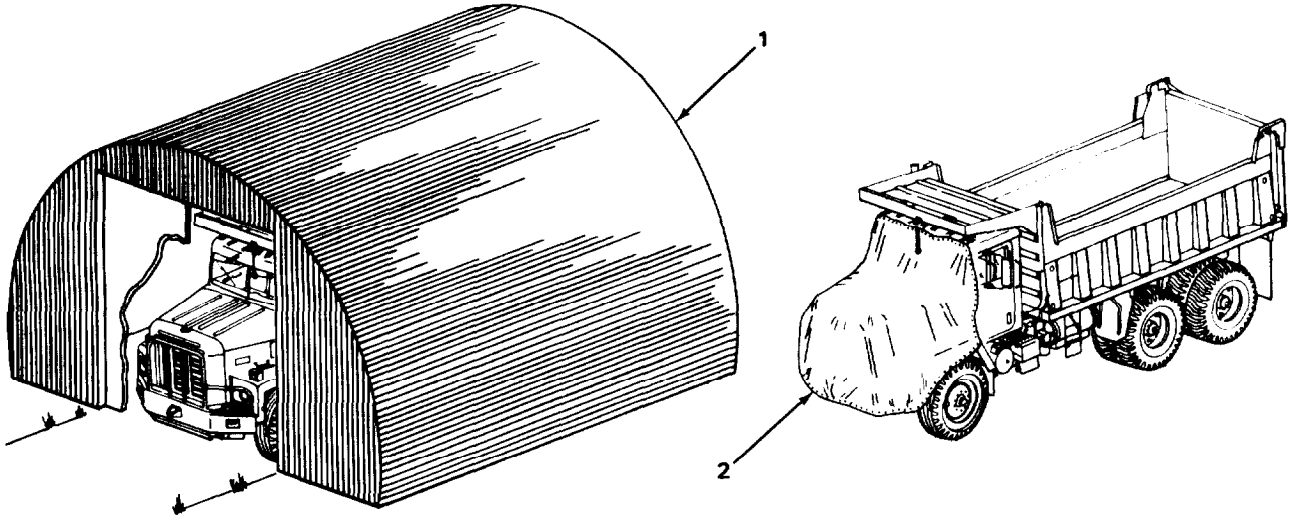
HOT WEATHER OPERATIONS

NOTE

When operating in hot weather, frequently check gage readings (page 2-37), cooling system, engine oil level, and perform PMCS (page 2-12).

PARKING IN EXTREME HEAT

1. Park, if possible, under a shelter (1) to protect dump truck against effects of sun.
2. If shelter (1) is not available, use tarpaulin (2) to cover engine compartment, radiator, and window glass.
3. If tarpaulin (2) is not available, park dump truck with cab facing away from sun.



TA234436

OPERATION IN SANDY CONDITIONS

This paragraph contains steps to follow when operating dump truck in sandy conditions. Perform these steps to prevent possible damage to dump truck.

DRIVING IN SANDY CONDITIONS

1. Reduce tire pressure when driving on soft sand and over dunes. Never release so much pressure that tires slip on rims. Drive at low speeds when tire pressure is reduced. When conditions improve, have Organizational Maintenance inflate tires to proper air pressure (page 1-14).

2. Keep steady, even movement with both transmissions in low range. Keep dump truck rolling without straining engine and power train.

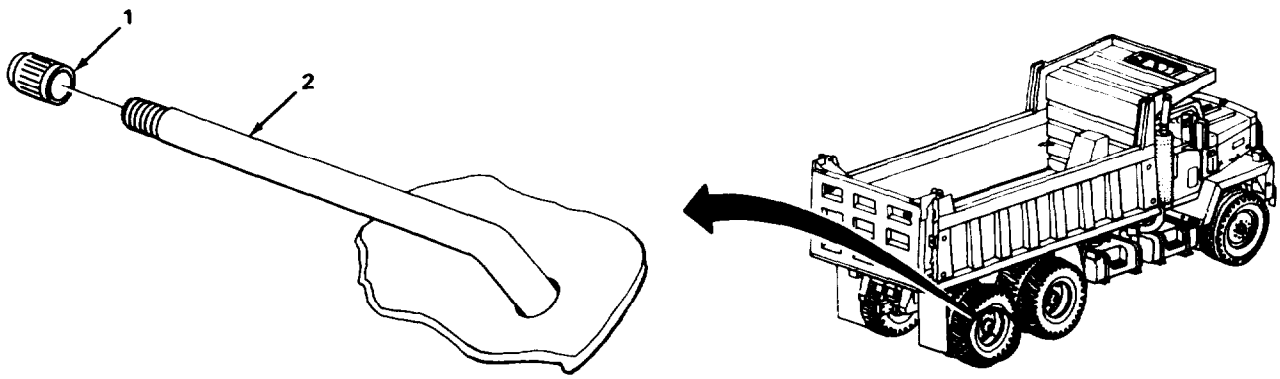
NOTE

If dump truck is stuck in sand, engage power divider (page 2-51) and try to move dump truck.

3. If dump truck bogs down, place boards, brush, or similar material under and in front of drive tires. If dump truck cannot be freed under its own power, notify Organizational Maintenance.

4. When operating in muddy, sandy, or dusty areas, make sure valve caps (1) are on valve stems (2).

5. Check gages for proper readings (page 2-42).

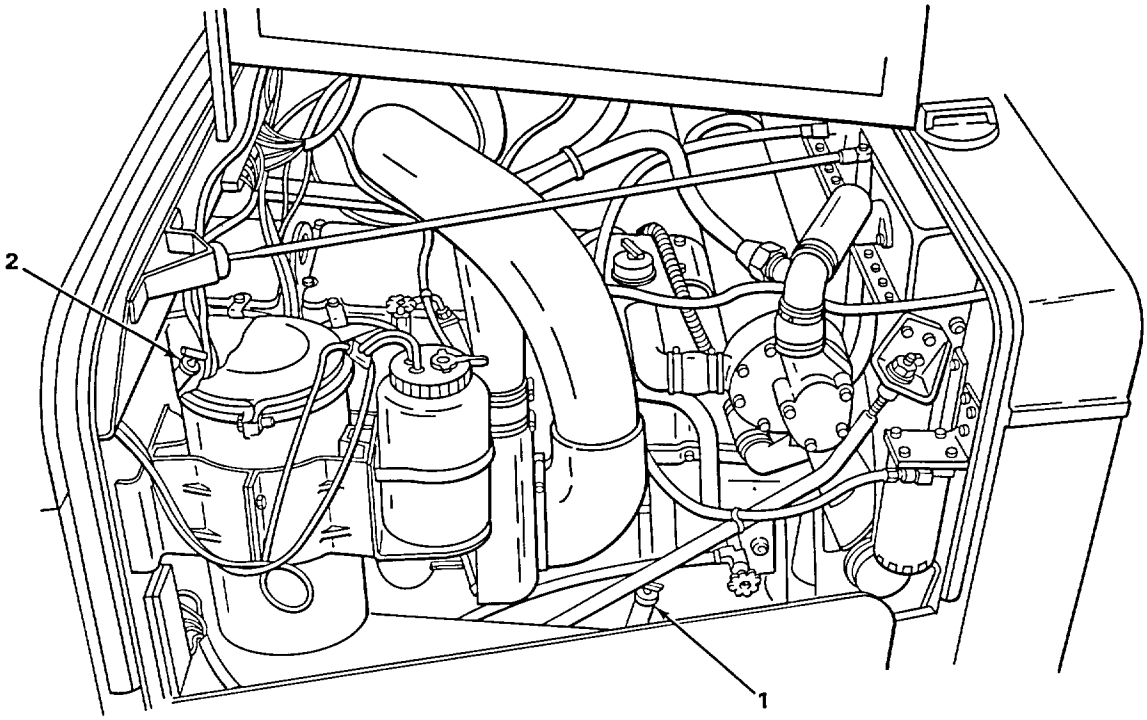


TA234437

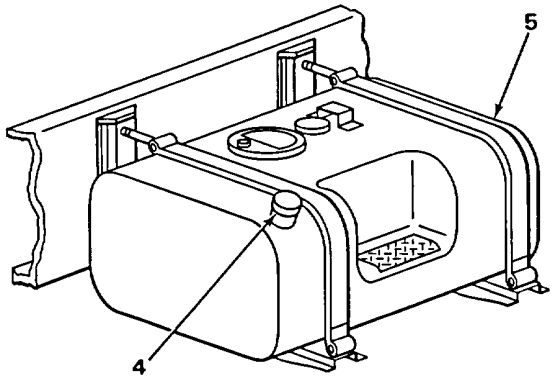
OPERATION IN SANDY CONDITIONS - CONTINUED

PREVENTIVE MAINTENANCE IN SANDY CONDITIONS

1. Clean sand and dirt from engine oil dipstick tube (1) and transmission oil dipstick tube (2) before removing to check oil levels.



3. Using rag, clean around fuel tank filler cap (4) before fuel is added. In very sandy and dusty areas, Organizational Maintenance should filter or strain fuel when filling tank (5).



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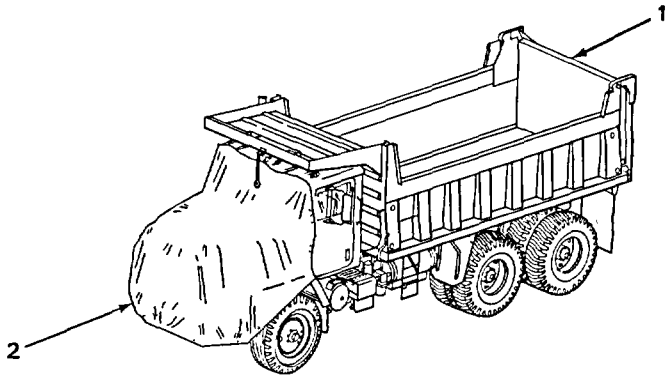
OPERATION IN SANDY CONDITIONS - CONTINUED

PREVENTIVE MAINTENANCE IN SANDY CONDITIONS - CONTINUED

4. When parking overnight or for an extended period of time, park, if possible, with rear of dump truck (1) toward the wind, or cover radiator and windows with tarpaulin (2) if available. K



OPERATION IN SNOWY CONDITIONS

DRIVING IN SNOW AND ICE

1. Start moving by accelerating slowly with auxiliary transmission in low range and main transmission in D position (page 2-47). This will help avoid spinning tires.
2. Drive at slower speeds.
3. Signal what you plan to do sooner than in normal driving.
4. Pull out FRONT BRAKE LIMITING valve and activate COMPR BRK switch (page 2-52).

WARNING

Prolonged pumping of brakes reduces air pressure, which minimizes brake efficiency. Minimal brake efficiency could cause injury to personnel.

5. Slowly apply brakes, to help avoid skidding, and give early warning that you are going to stop.
6. Keep greater distance between you and the vehicle ahead.
7. Keep windshields, windows, mirrors, headlights, stoplights, and body lights clean and clear of snow and ice. Use heater/defroster to help keep window glass clear.
8. Go down medium grades in gear range normally used to climb the same grade. On steep or very slippery grades, use at least one gear range lower.
9. After driving through slush or water, drive slowly and put enough pressure on service brake pedal to cause a slight drag. Heat from dragging brakes will help dry brakes. Release brake pedal and go back to normal speed.

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OPERATION IN SNOWY CONDITIONS - CONTINUED

DRIVING IN SNOW AND ICE - CONTINUED

10. Stop and inspect any difficult section of road before driving on it. Select main transmission gear best suited for road and then continue.

CAUTION

Shifting to reverse and then back to drive while dump truck is in motion will damage transmission.

11. If tires start spinning and forward motion stops, engage power divider (page 2-51), back up, and try again to gain forward motion. It may be necessary to rock dump truck by shifting to D range, accelerating lightly, shifting to reverse (R) when forward motion stops, and then shifting back to D range. Try not to spin tires.

STOPPING ON SNOW AND ICE

1. Ease up on accelerator with transmission in gear.

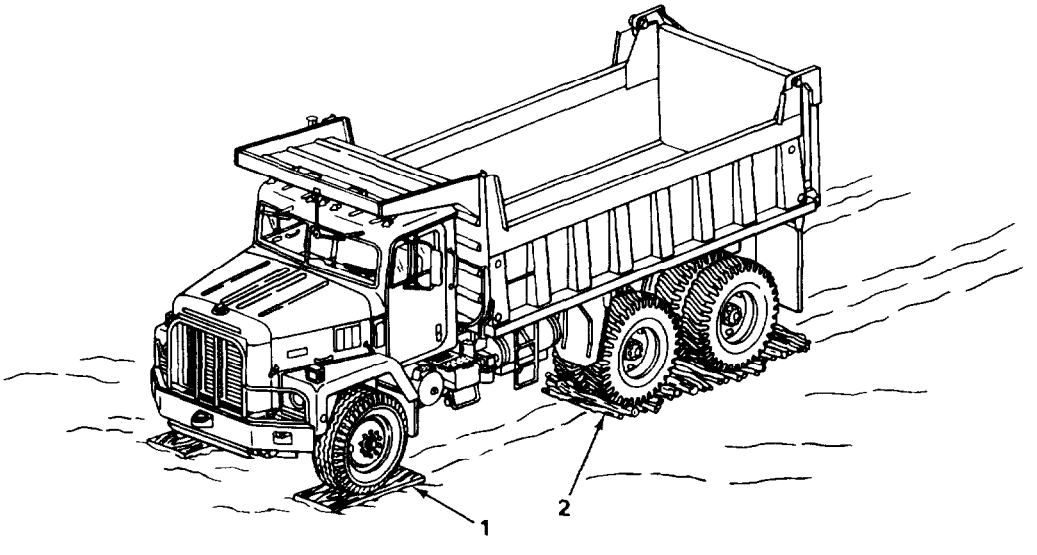
2. Apply service brakes lightly and release, apply and release, and continue until dump truck is stopped.

3. Do not brake suddenly on slick roads. This may cause dump truck to skid.

PARKING ON SNOW AND ICE

1. Place planks (1), brush (2), or other materials that give traction, under tires. This guards against tires freezing to ground or becoming pocketed in ice, and provides traction when truck is moved again.

2. Chock tires and put transmissions in neutral. Do not apply parking brake. Brakeshoes may freeze in applied position.



TA234440

OPERATION IN MUDDY CONDITIONS

MUD AND OTHER SOFT SURFACES

1. Stop and check surface conditions before entering soft-surface areas.
2. Engage power divider (page 2-51) if conditions require its use.
3. Select transmission gear range (page 2-47) for power needed to move dump truck with limited slip. Enter soft-surface area at engine speed of approximately 1100 rpm.
4. Keep accelerator pedal steady and keep dump truck moving until back on solid ground.

CAUTION

When stuck or when losing traction, be very careful to prevent bouncing. If bouncing occurs, let up on accelerator pedal and gradually increase engine speed to move dump truck.

5. If dump truck is stuck, try to pull out using underdrive range. Place planks, brush, and similar materials under tires to give extra traction if needed.

OPERATION IN SALTWATER AREAS

Operation in saltwater areas will cause rapid rusting and corrosion of metal parts. The following procedures will help slow the rust and corrosion process.

1. Wash dump truck thoroughly with fresh water after operation.
2. Dry off standing water.
3. Notify Organizational Maintenance to lubricate often.
4. Notify Organizational Maintenance to apply lubricant to unpainted surfaces.

OPERATION IN RAINY OR HUMID CONDITIONS

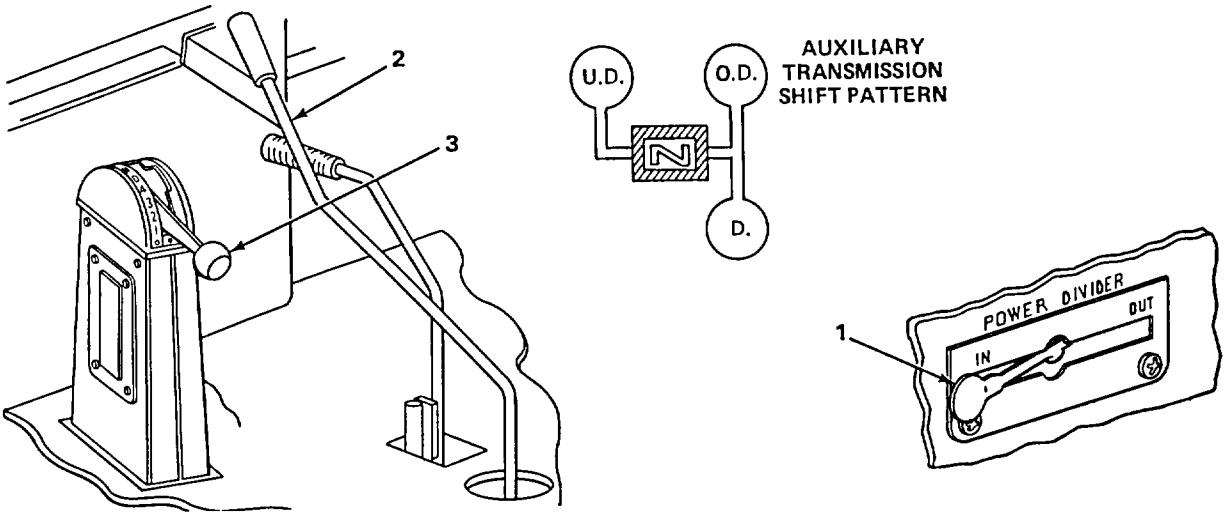
1. Pull out FRONT BRAKE LIMITING valve and activate COMPR BRK switch (page 2-52).
2. Activate defroster.
3. Make sure tire valve stems have caps.
4. Make sure fuel tanks are kept full at all times.
5. Make sure fuel tank caps are tight.
6. Notify Organizational Maintenance to keep all moving parts well lubricated.
7. Wipe all moisture from electrical harness and connections.
8. Lightly apply brakes several times, after going through deep puddles, to dry brake linings.

FORDING

BEFORE FORDING

Use the following procedures:

1. Make sure ground beneath water surface is firm enough to support dump truck.
2. Water depth should not exceed 21 inches (53.3 cm).
3. Make sure engine is operating properly.
4. Move POWER DIVIDER IN/OUT control (1) to IN.
5. Put auxiliary transmission shift lever (2) in U.D.
6. Put main transmission shift lever (3) in first gear, position 1.
7. Ford at speed of 3 to 4 mph.



TA234441

FORDING - CONTINUED

AFTER FORDING

Water may have entered components or contaminated fluid systems. If water has entered components, it must be removed before it can cause damage to systems, surfaces, or equipment. The following checks will help find and get rid of unwanted water.

1. Lightly apply brakes several times to dry brakeshoe linings. Be sure brakes are working properly before driving at normal speeds.

2. Let engine run a while after fording to drive out water.

3. If saltwater was forded, wash dump truck thoroughly with fresh water.

4. Drain and dry any areas where water has collected.

5. Notify Organizational Maintenance to lubricate unpainted surfaces to guard against rust and corrosion.

6. Check all electrical wiring and components for wetness. Dry any wet areas thoroughly.

7. Check transmission oil and engine oil dipsticks (page 2-24) for signs of water. If water bubbles, water streaks, condensation, or unusually high oil level are found, notify Organizational Maintenance.

8. Notify Organizational Maintenance to perform after fording lubrication checks and services or any services or repairs the dump truck needs before returning it to normal use.

TOWING

When dump truck is disabled and needs towing, notify Organizational Maintenance of the following:

1. Type of dump truck (20-ton, F-5070).

2. Weight of dump truck and load (if loaded).

3. Type of load.

4. Location of dump truck.

5. Reason dump truck is disabled.

CHAPTER 3

OPERATOR MAINTENANCE INSTRUCTIONS

OVERVIEW

This chapter has lubrication instructions, troubleshooting symptom index and procedures, and authorized operator level maintenance procedures.

Section I. LUBRICATION INSTRUCTIONS

There are no lubrication requirements for operator level maintenance.

Section II. OPERATOR TROUBLESHOOTING PROCEDURES

GENERAL

The troubleshooting symptom index and troubleshooting procedures contained in this section will give you information needed to find and correct problems you may have while operating the dump truck.

The symptom index lists the common malfunctions that you may find during operation or maintenance of the dump truck. You should perform tests or inspections and corrective actions in the order listed.

This manual cannot list all malfunctions that may occur, or all tests or inspections and corrective actions. If a malfunction is not listed, or is not corrected by corrective actions listed, notify your supervisor.

Keep in mind all WARNINGS and CAUTIONS when performing troubleshooting procedures.

EXPLANATION OF COLUMNS

Malfunction. Visual or operational indication that something is wrong with the dump truck.

Test or Inspection. Procedure to isolate the problem in a component or system.

Corrective Action. Procedure to correct the problem.

SYMPTOM INDEX

This symptom index is provided as a quick way to get you to the troubleshooting procedures that will help you solve the problem you are having.

SYMPTOM INDEX - CONTINUED

TROUBLESHOOTING

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

ENGINE

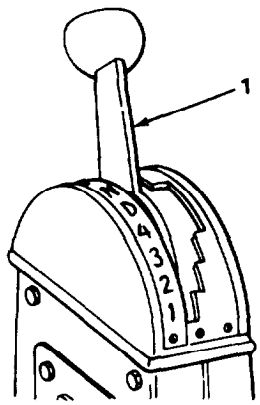
1. ENGINE FAILS TO CRANK.

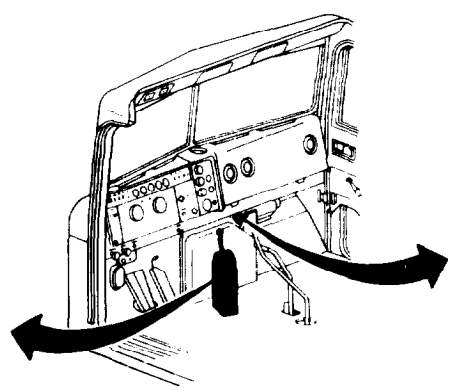
Step 1. Check that main transmission control lever (1) is in neutral (N).

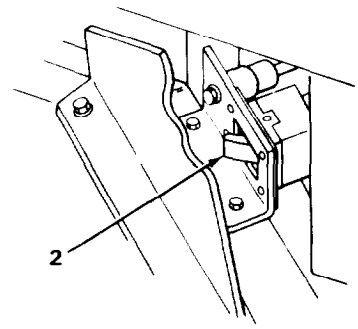
Step 2. Check that IGN SYSTEM circuit breaker (2) is on.

If IGN SYSTEM circuit breaker (2) is tripped, recycle by moving switch to left.

If engine still won't crank, notify Organizational Maintenance.







TA234442

TROUBLESHOOTING - CONTINUED

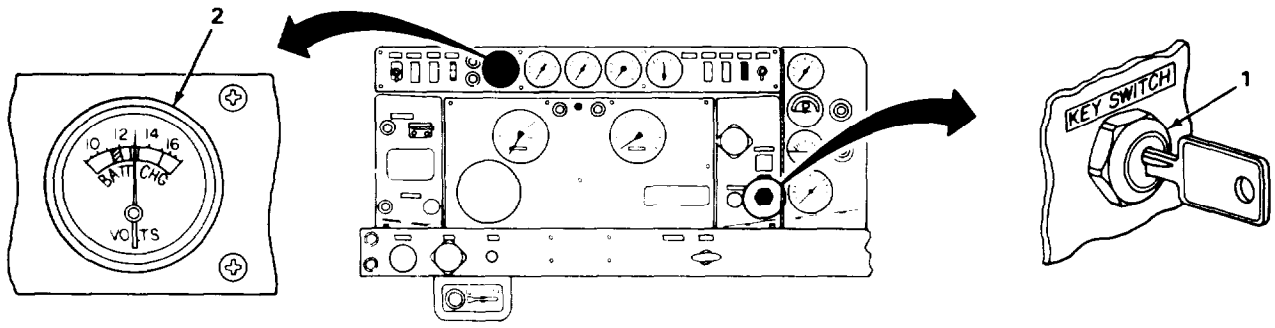
MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

ENGINE - CONTINUED

1. ENGINE FAILS TO CRANK - CONTINUED.

Step 3. Turn KEY SWITCH (1) counterclockwise to off position and check that BATT CHG VOLTS gage (2) needle is in green area on left side of BATT CHG VOLTS gage (2).

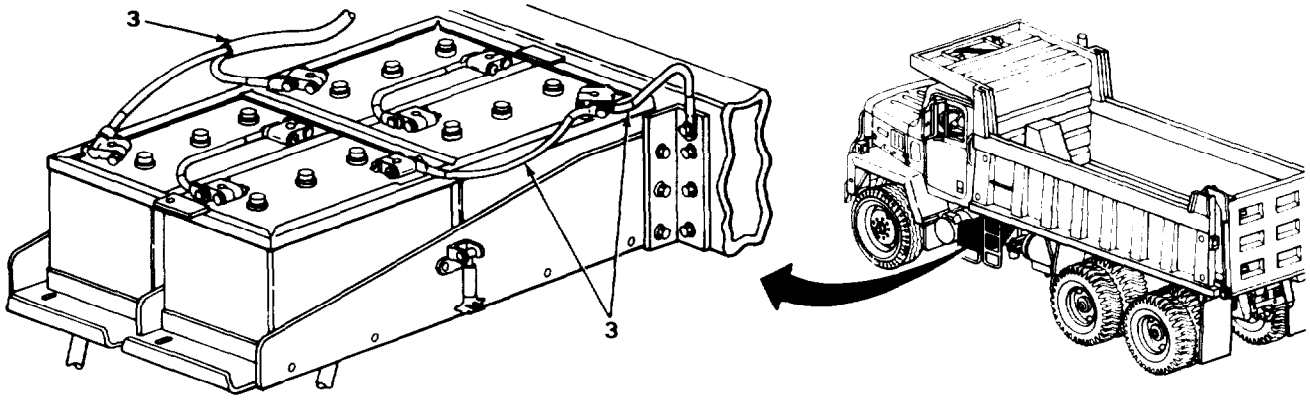
If needle is not in green area on left side of BATT CHG VOLTS gage (2), notify Organizational Maintenance.



Step 4. Remove battery compartment cover (page 2-18).

Step 5. Check for corroded, loose, or broken battery cables (3).

If battery cables (3) are corroded, loose, or broken, notify Organizational Maintenance.



TA234443

TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

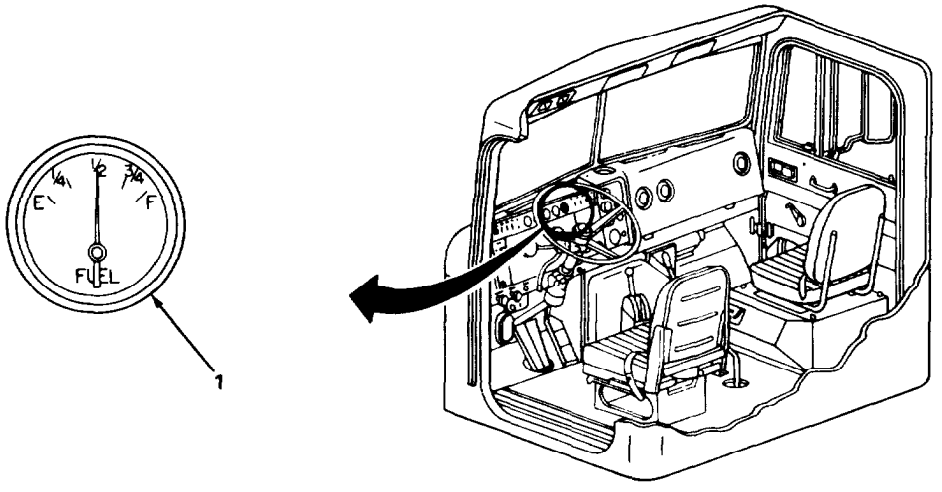
Step 6. Install battery compartment cover (page 2-19).

2. ENGINE CRANKS BUT FAILS TO START.

Step 1. Turn KEY SWITCH clockwise to on.

Step 2. Check fuel level on FUEL gage (1).

If fuel gage indicates E, notify Organizational Maintenance.



TA234444

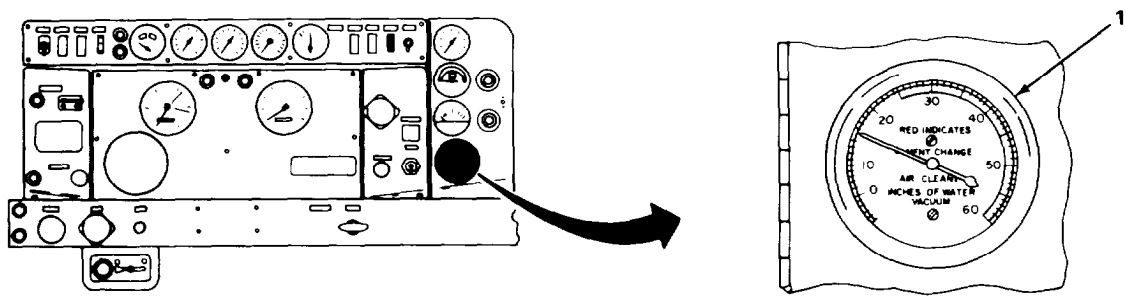
MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

ENGINE - CONTINUED

3. ENGINE STARTS BUT MISFIRES OR RUNS ROUGHLY AFTER WARMUP.

Step 1. Check AIR CLEANER VACUUM gage (1) for reading under 25 inches of water.

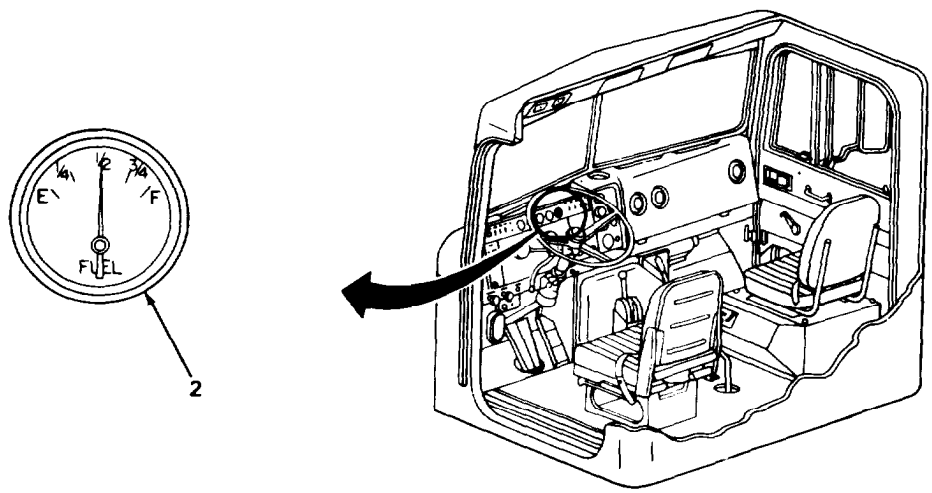
If AIR CLEANER VACUUM gage (1) indicates a reading of 25 inches of water or higher, notify Organizational Maintenance.



Step 2. Check fuel level on FUEL gage (2).

If fuel gage (2) indicates E, notify Organizational Maintenance to fill fuel tanks.

If fuel gage (2) indicates above E, notify Organizational Maintenance.



TA234445

TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

4. ENGINE OVERHEATS (WATER TEMP GAGE OVER 195°F).

WARNING

Do not remove radiator cap when engine reaches or exceeds operating temperature 165° to 195°F (74° to 90°C). To avoid injury, shut down engine and allow radiator to cool before removing cap. Allow engine to cool before filling radiator to avoid damage to engine and injury to personnel.

Step 1. Check coolant level in radiator (1) (page 2-23).

If coolant level is low, 1 inch (2.5 cm) below filler neck (2), notify Organizational Maintenance.

Step 2. Check for leaks in radiator (1) and hoses (3).

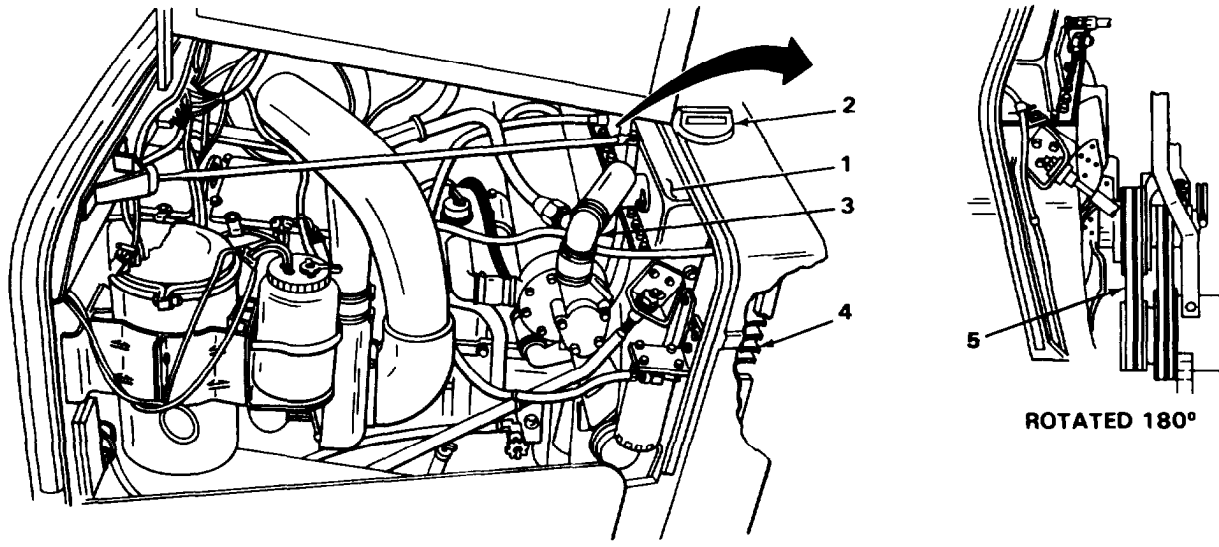
If radiator (1) or hoses (3) are leaking, notify Organizational Maintenance.

Step 3. Check radiator cooling fins (4) for mud, ice, snow, and dirt.

If cooling fins (4) are clogged, notify Organizational Maintenance.

Step 4. Check cooling fan belts (5) for looseness.

If cooling fan belts (5) are loose, notify Organizational Maintenance.



TA234446

TROUBLESHOOTING - CONTINUED

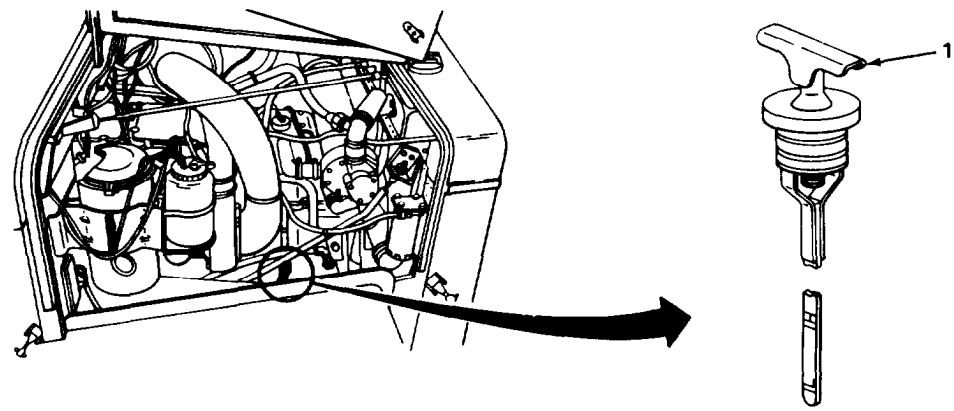
MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

ENGINE - CONTINUED

4. ENGINE OVERHEATS (WATER TEMP GAGE OVER 195°F) - CONTINUED.

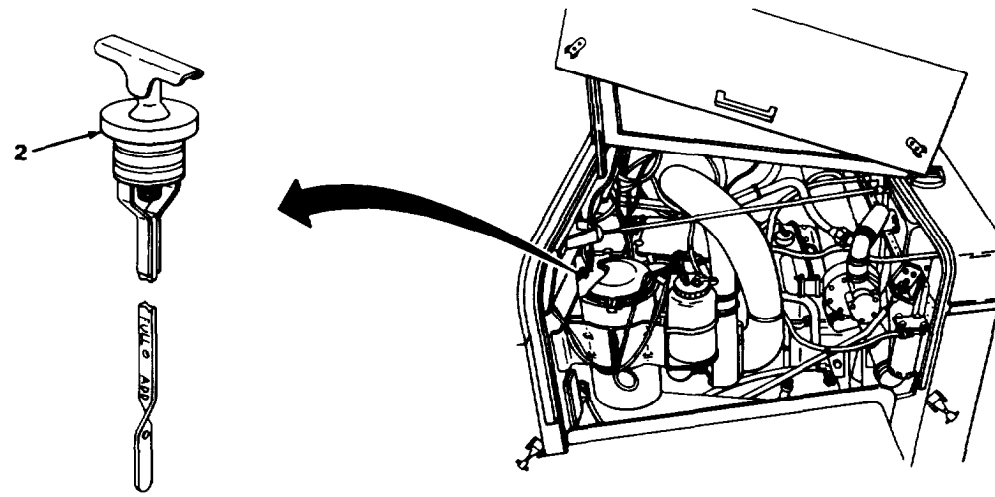
Step 5. Check engine oil level (page 2-24).

If oil level is not between H (high) and L (low) marks on dipstick (1), notify Organizational Maintenance.



Step 6. Check main transmission oil level (page 2-24).

If main transmission oil is not between FULL and ADD marks on dipstick (2), notify Organizational Maintenance.



TA234447

TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

5. ENGINE KNOCKS.

Check engine oil level (page 2-24).

Even if engine oil level is between H (high) and L (low) marks, notify Organizational Maintenance.

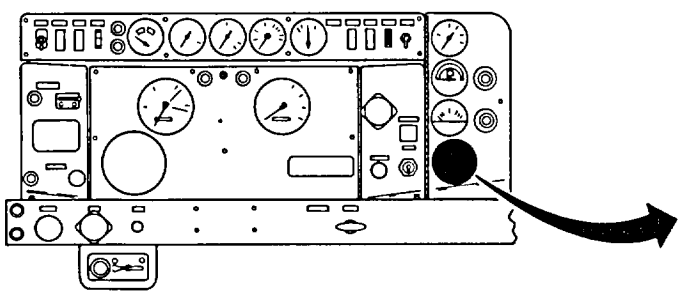
6. EXCESSIVE EXHAUST SMOKE AT NORMAL OPERATING TEMPERATURE.

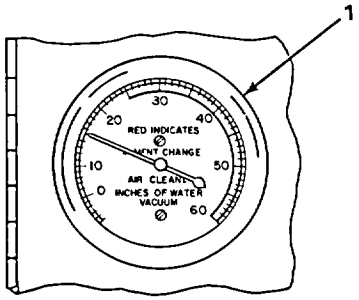
Step 1. Check to see if engine oil level is too high (page 2-24).

If engine oil level is above H (high) mark, notify Organizational Maintenance.

Step 2. Perform applicable starting procedure (page 2-37 or 2-40). Check AIR CLEANER VACUUM gage (1) for a reading under 25 inches of water.

If AIR CLEANER VACUUM gage (1) indicates a reading of 25 inches of water or higher, notify Organizational Maintenance.





TA234448

TROUBLESHOOTING - CONTINUED

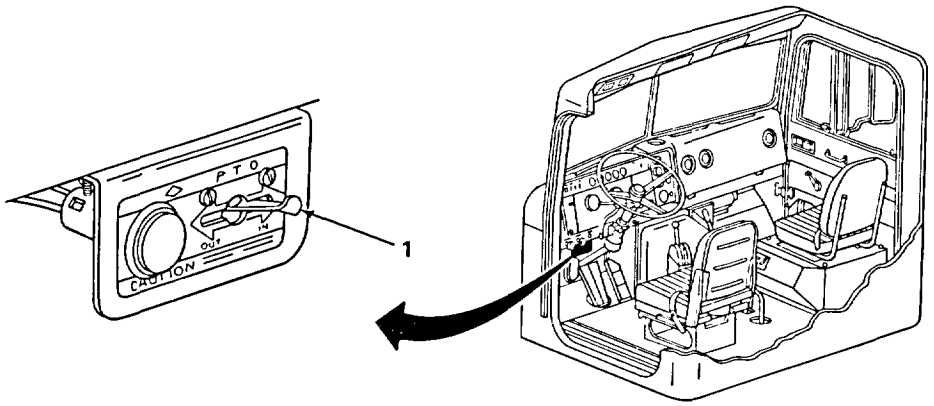
MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

ENGINE - CONTINUED

7. ENGINE DOES NOT DEVELOP FULL POWER.

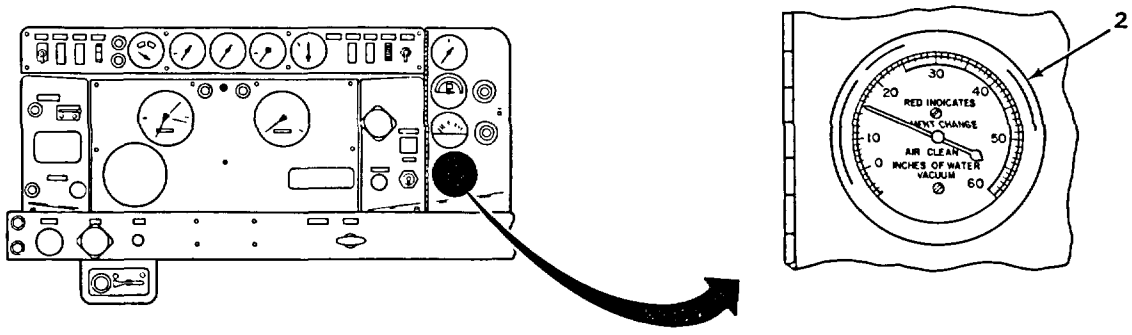
Step 1. Check to see if P.T.O. IN/OUT control (1) is set to IN position.

Move to OUT position. If engine does not develop full power, notify Organizational Maintenance.



Step 2. Check AIR CLEANER VACUUM gage (2) for a reading under 25 inches of water.

If AIR CLEANER VACUUM gage (2) indicates a reading of 25 inches of water or higher, notify Organizational Maintenance.



TA234449

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

8. LOW OR NO OIL PRESSURE.

Step 1. Shut down engine by turning key in KEY SWITCH (1) counterclockwise to off and check engine oil level (page 2-24).

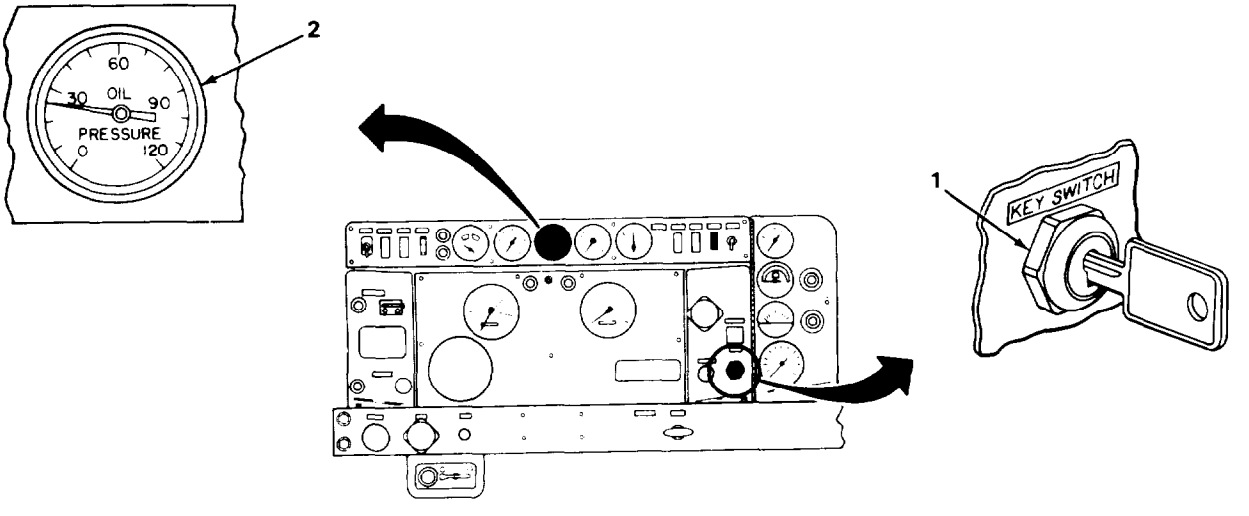
If oil level is not between H (high) and L (low) marks, notify Organizational Maintenance.

NOTE

OIL PRESSURE gage (2) should indicate between 15 and 30 psi within 5 seconds of engine starting.

Step 2. Perform applicable starting procedure (page 2-37 or 2-40).

If OIL PRESSURE gage (2) still shows low or no oil pressure, shut down engine and notify Organizational Maintenance.



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TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

ENGINE - CONTINUED

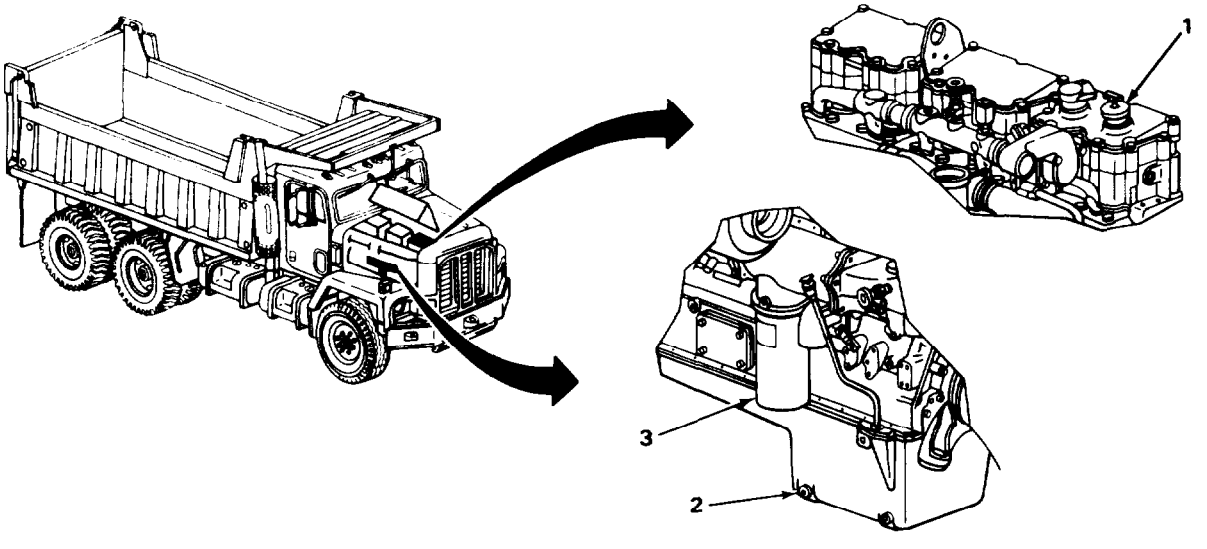
9. HIGH OIL CONSUMPTION.

Check for loose and/or leaking oil filler cap (1), oil pan drainplug (2), oil filter (3), and other engine oil lines.

If oil filler cap (1) is loose, turn clockwise to tighten.

If oil pan drainplug (2), oil filter (3), or engine oil lines are leaking, notify Organizational Maintenance.

If high oil consumption continues, notify Organizational Maintenance.



TA234451

TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

ELECTRICAL

10. BATTERY WILL NOT HOLD CHARGE.

WARNING

Do not smoke, place near open flame, or make sparks around battery, especially if vent caps are removed. If battery is gassing, it can explode, causing injury to personnel.

Step 1. Remove battery compartment cover (page 2-18).

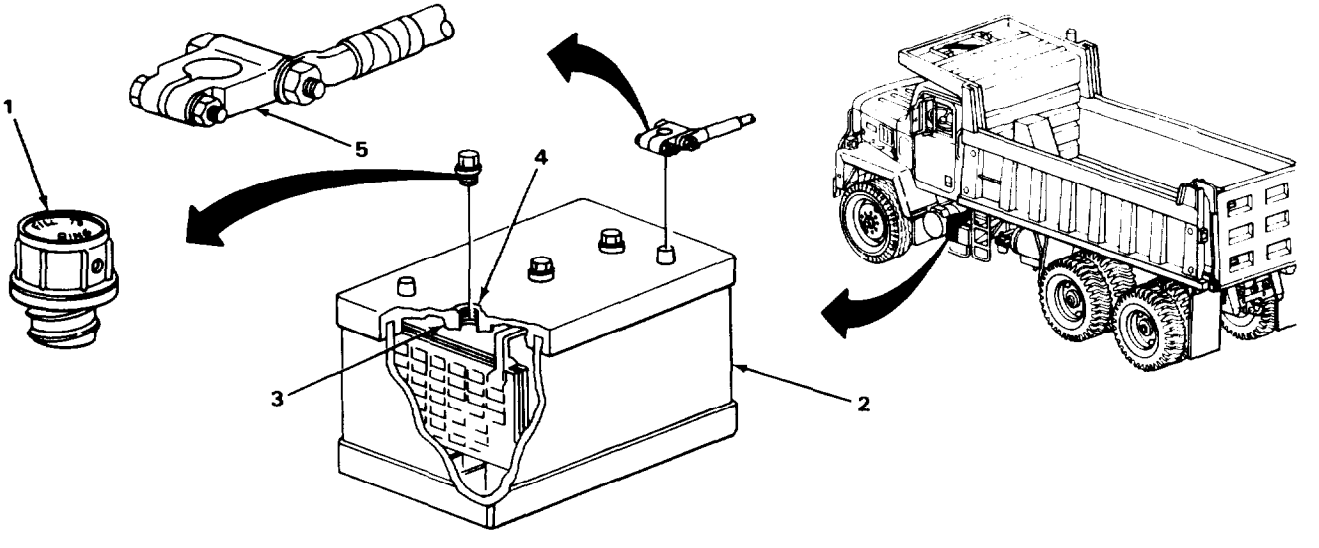
Step 2. Remove vent caps (1) from battery (2) and check fluid level.

If fluid level is below ledge (3) of filler opening (4), notify Organizational Maintenance.

Step 3. Check battery terminal ends (5) for corrosion or looseness.

If loose or corroded, notify Organizational Maintenance.

Step 4. Install battery compartment cover (page 2-19).



TA234452

TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

ELECTRICAL - CONTINUED

11. BATT GEN VOLTS GAGE INDICATES HIGH RATE OF CHARGE.

WARNING

Fluid in battery is sulfuric acid solution. Be careful not to drip fluid on yourself or equipment. If fluid spills on you, splash affected areas with water to flush clean. Get medical attention immediately.

NOTE

Evidence of fluid leakage will be heavy corrosive buildup at bottom of battery or obvious physical damage.

Step 1. Remove battery compartment cover (page 2-18).

Step 2. Check outside of battery for fluid leakage.

Step 3. Clean top of battery with damp cloth and look for battery swelling and battery case cracks.

NOTE

Battery in constant need of water is a good indication that an overcharge condition exists.

If fluid leakage, corrosion buildup, or physical damage is found, notify Organizational Maintenance.

Step 4. Install battery compartment cover (page 2-19).

12. ONE OR MORE LIGHT SYSTEMS WILL NOT WORK.

Step 1. Check that LIGHTS switch (1) is in position desired.

If not, set LIGHTS switch (1) to desired position.

Step 2. Check for blown fuse (2).

If fuse (2) is blown, notify Organizational Maintenance.

Step 3. Move turn signal lever (3) up or down to check signal lights.

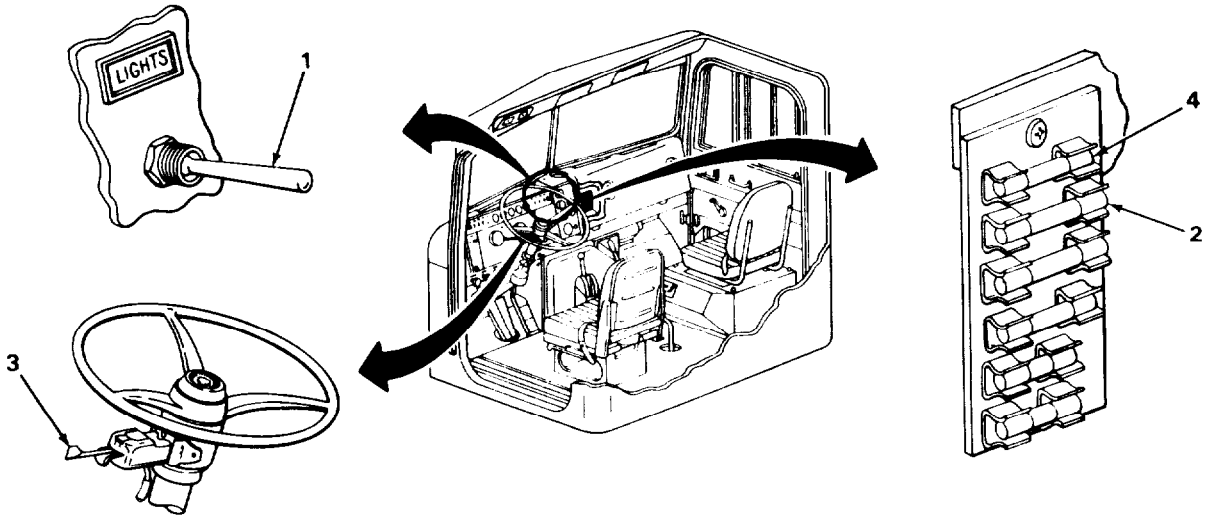
If signal lights still do not light, perform step 4.

TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

Step 4. Check for blown fuse (4).

If fuse (4) is blown, notify Organizational Maintenance.



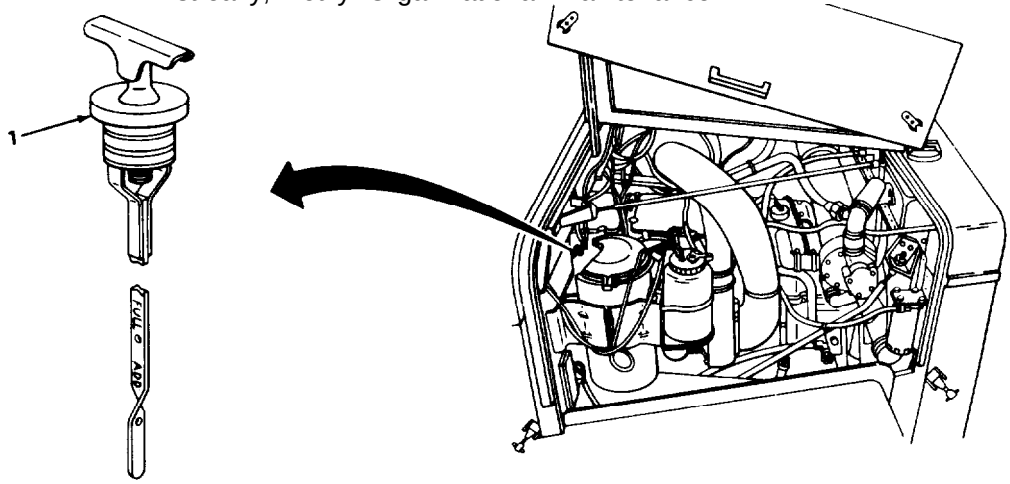
MAIN TRANSMISSION

13. FOAMY OIL ON DIPSTICK.

Step 1. Perform applicable starting procedure (page 2-37 or 2-40).

Step 2. Check for high oil level on dipstick (1) with engine running and transmission in neutral at normal operating temperature of 165° to 225°F (74° to 107°C).

If oil level is above FULL mark on dipstick (1) or is discolored and streaky, notify Organizational Maintenance.



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TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

MAIN TRANSMISSION - CONTINUED

14. OIL LEAKING FROM TRANSMISSION BREATHER.

With engine running and transmission in neutral and at normal operating temperature, 165° to 225°F (74° to 107°C), check for foam or high oil level on dipstick (1).

If oil level is above FULL mark on dipstick (1) or shows signs of streaking, discoloration, or bubbles, notify Organizational Maintenance.

15. TRANSMISSION OIL TEMP GAGE INDICATES OVERHEATING WHILE UNDER FULL LOAD.

Step 1. Idle engine for 3 to 5 minutes at 800 to 1500 rpm.

If transmission oil does not cool, shut down engine and notify Organizational Maintenance.

Step 2. With engine running and transmission in neutral and at normal operating temperature, 165° to 225°F (74° to 107°C), check oil level on dipstick (1).

If oil level is below FULL mark, notify Organizational Maintenance.

16. SLOW OR ERRATIC AUTOMATIC SHIFTING.

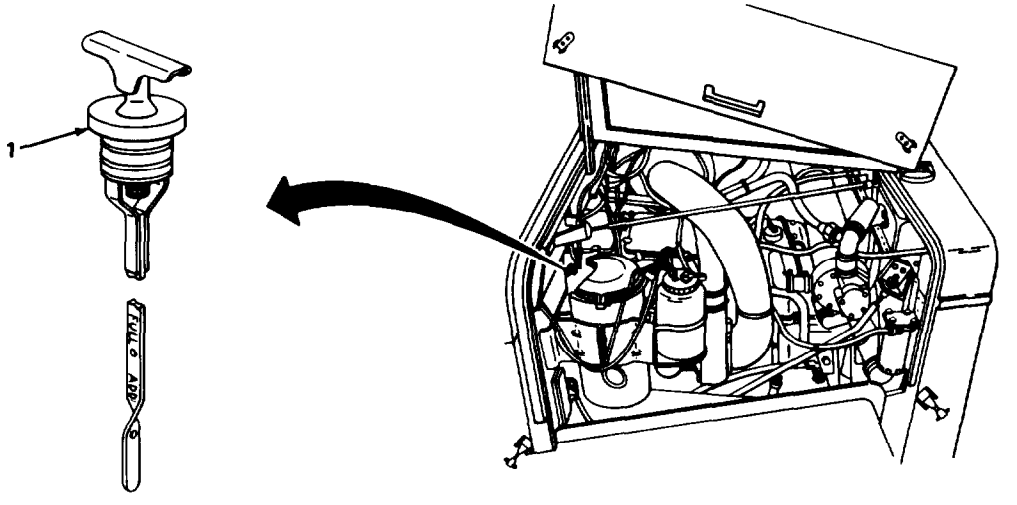
With engine running and transmission in neutral and at normal operating temperature, 165° to 225°F (74° to 107°C), check oil level on dipstick (1).

If oil level is above or below FULL mark, notify Organizational Maintenance.

If transmission continues to shift slow or erratic, notify Organizational Maintenance.

TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION



POWER TAKEOFF (PTO)

17. PTO WILL NOT ENGAGE.

Step 1. Check that P.T.O. IN/OUT control is set to IN position.

If not, set to IN position.

Step 2. Perform pto engagement procedure (page 2-62).

If pto still does not engage, notify Organizational Maintenance.

Step 3. Check air pressure gage for readings in excess of 60 psi. Wait 3 to 5 minutes to build air pressure over 60 psi.

If 60 psi is not exceeded, notify Organizational Maintenance.

18. PTO WILL NOT DISENGAGE.

Step 1. Check that P.T.O. IN/OUT control is set to OUT position.

If not, set to out position.

Step 2. Perform pto engagement procedure (page 2-62), then attempt to disengage pto.

If pto still does not disengage, notify Organizational Maintenance.

TA234454

TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

AIR SYSTEM AND BRAKES

19. AIR PRESSURE LOSS DURING OPERATION.

Step 1. Pull out PARKING BRAKE knob (1), then push it in sharply, making sure it seats tightly.

If leaking, notify Organizational Maintenance.

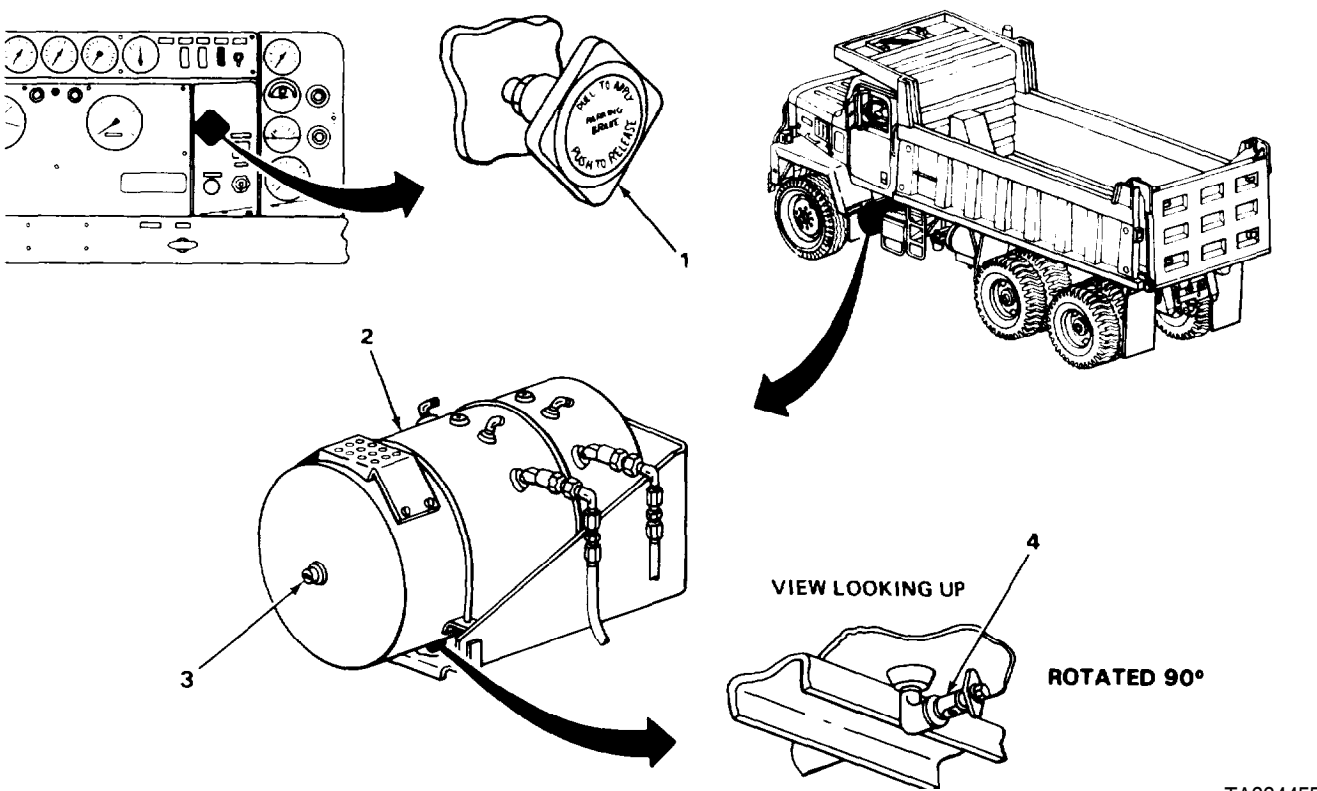
Step 2. Check air reservoir tank (2) and safety air vent valve (3) for leaks.

If leaking, notify Organizational Maintenance.

Step 3. Check air reservoir tanks for open draincock (4).

Tighten draincock (4) securely.

If leaking, notify Organizational Maintenance.



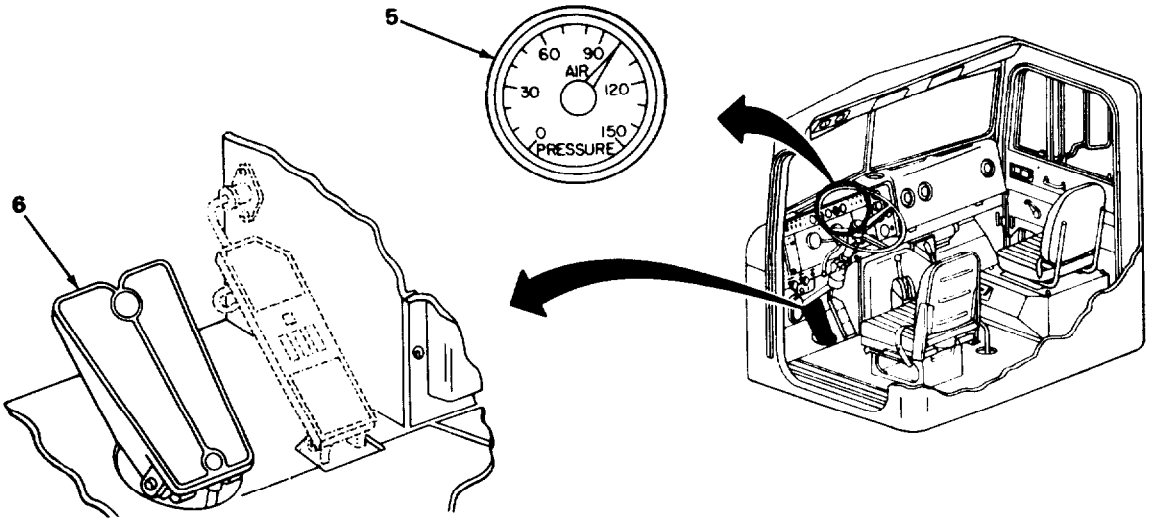
TA234455

TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

Step 4. Run engine to increase air reservoir pressure to indicate 90 to 120 psi on AIR PRESSURE gage (5). Stop engine when warning light and buzzer have gone off. Fully depress and hold brake pedal (6) for at least 2 minutes.

If air pressure has dropped more than 5 psi in 2 minutes or less, notify Organizational Maintenance.



TA234456

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

AIR SYSTEM AND BRAKES - CONTINUED

20. LOW AIR PRESSURE WARNING LIGHT AND WARNING BUZZER STAY ON.

Step 1. Check air reservoir tanks (1) for open draincock (2).

Tighten draincock (2) securely.

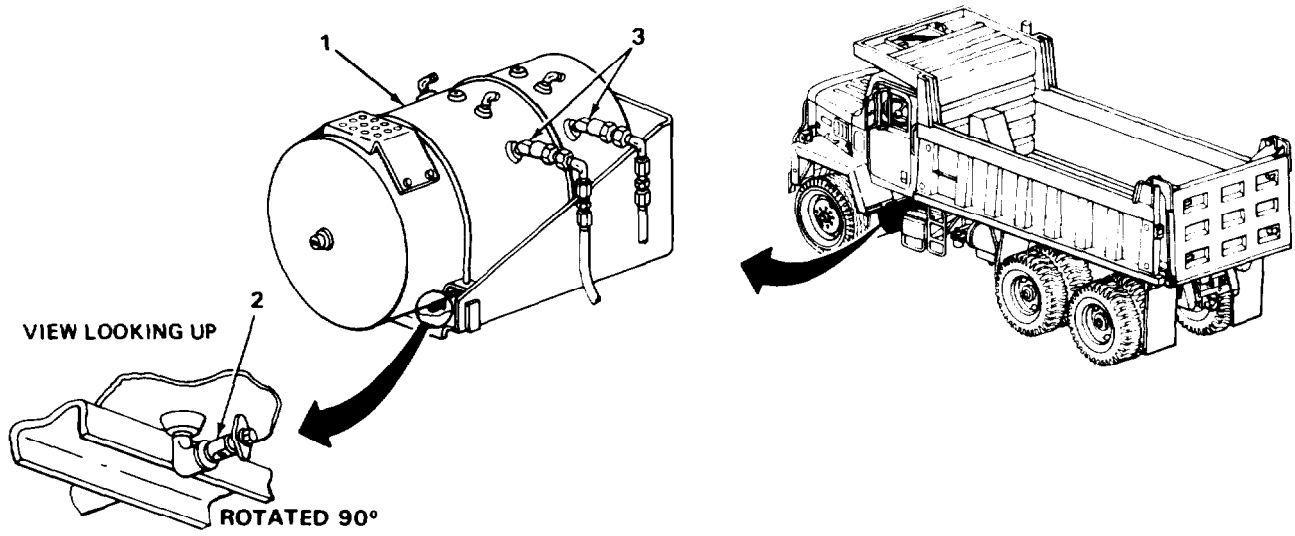
Step 2. Check air reservoir tanks (1) and air line connections (3) for sounds of air leaks (hissing sound).

If any leaks are found, notify Organizational Maintenance.

NOTE

If you have any of the following air-related malfunctions, notify Organizational Maintenance:

Slow air-pressure buildup
Insufficient braking
Quick loss of air pressure when engine is stopped.



TA234457

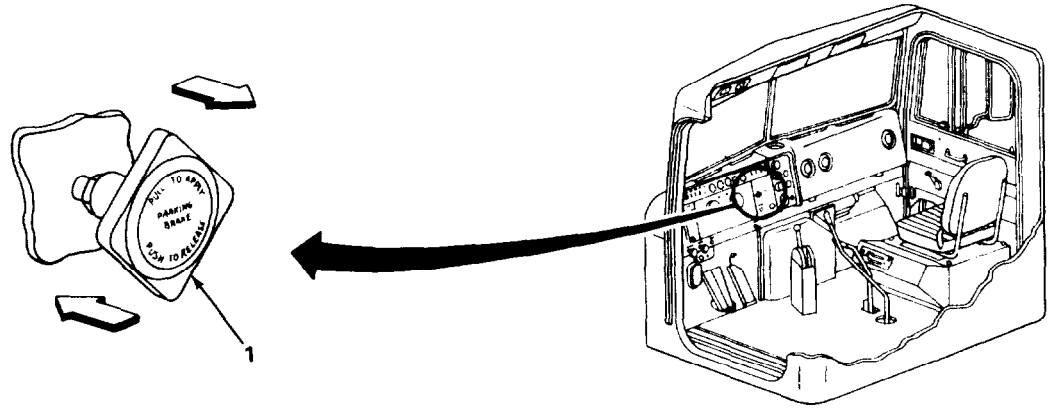
TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

21. AIRBRAKES WILL NOT RELEASE.

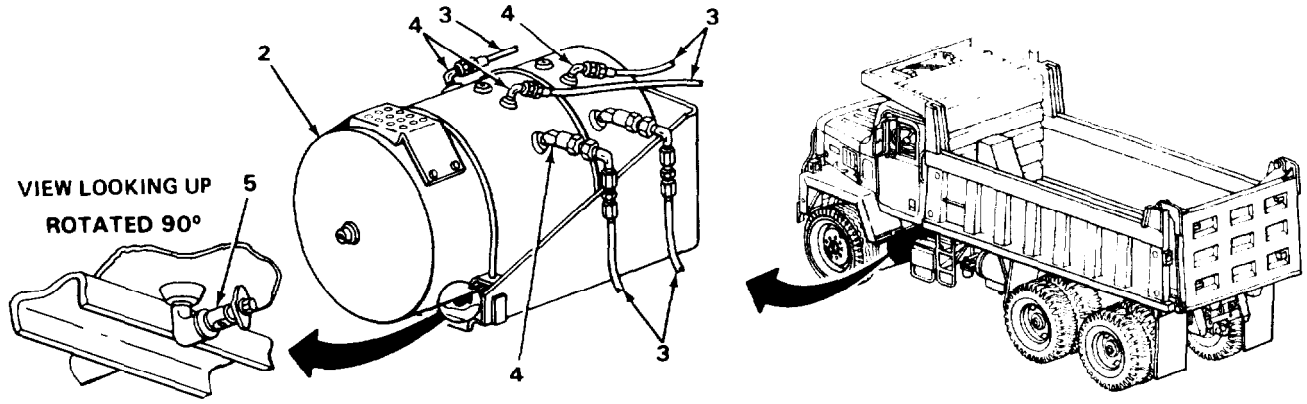
Step 1. Pull out PARKING BRAKE knob (1), then push it in sharply, making it seat tightly.

If airbrakes still will not release, notify Organizational Maintenance.



Step 2. Check for possible air leaks at reservoir (2), hoses (3), fittings (4), or draincock (5).

If leaks are found, notify Organizational Maintenance.



TA234458

TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

AIR SYSTEM AND BRAKES - CONTINUED

22. SLOW BRAKE OPERATION.

Step 1. Check truck AIR PRESSURE gage (1) to make sure air pressure in system indicates between 90 to 125 psi.

If gage does not indicate between 90 to 125 psi, notify Organizational Maintenance.

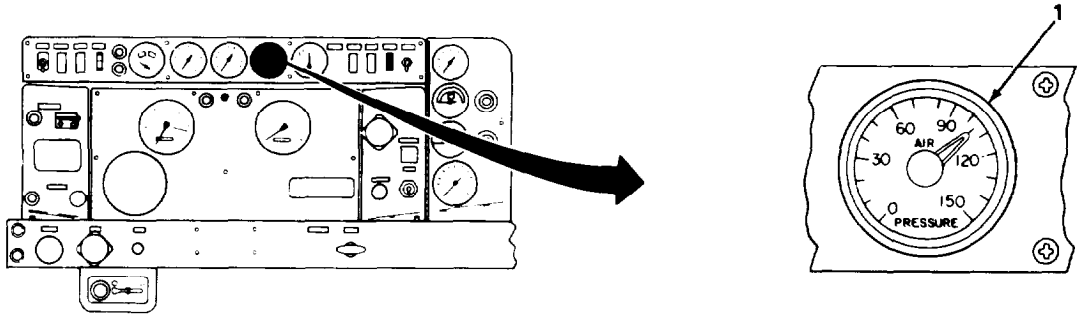
Step 2. Observe any air-pressure loss by shutting off truck engine, and note if any pressure loss of more than 5 psi in less than 2 minutes is evident on AIR PRESSURE gage (1).

If air pressure has dropped more than 5 psi in 2 minutes or less, notify Organizational Maintenance.

NOTE

If you have any of the following additional brake-related malfunctions, notify Organizational Maintenance:

Uneven braking
Brakes release too slowly
Noisy brakes
Dragging brakes
Parking brake does not hold.



TA234459

TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

POWER DIVIDER

23. POWER DIVIDER WILL NOT DISENGAGE AND INDICATOR LIGHT STAYS ON.

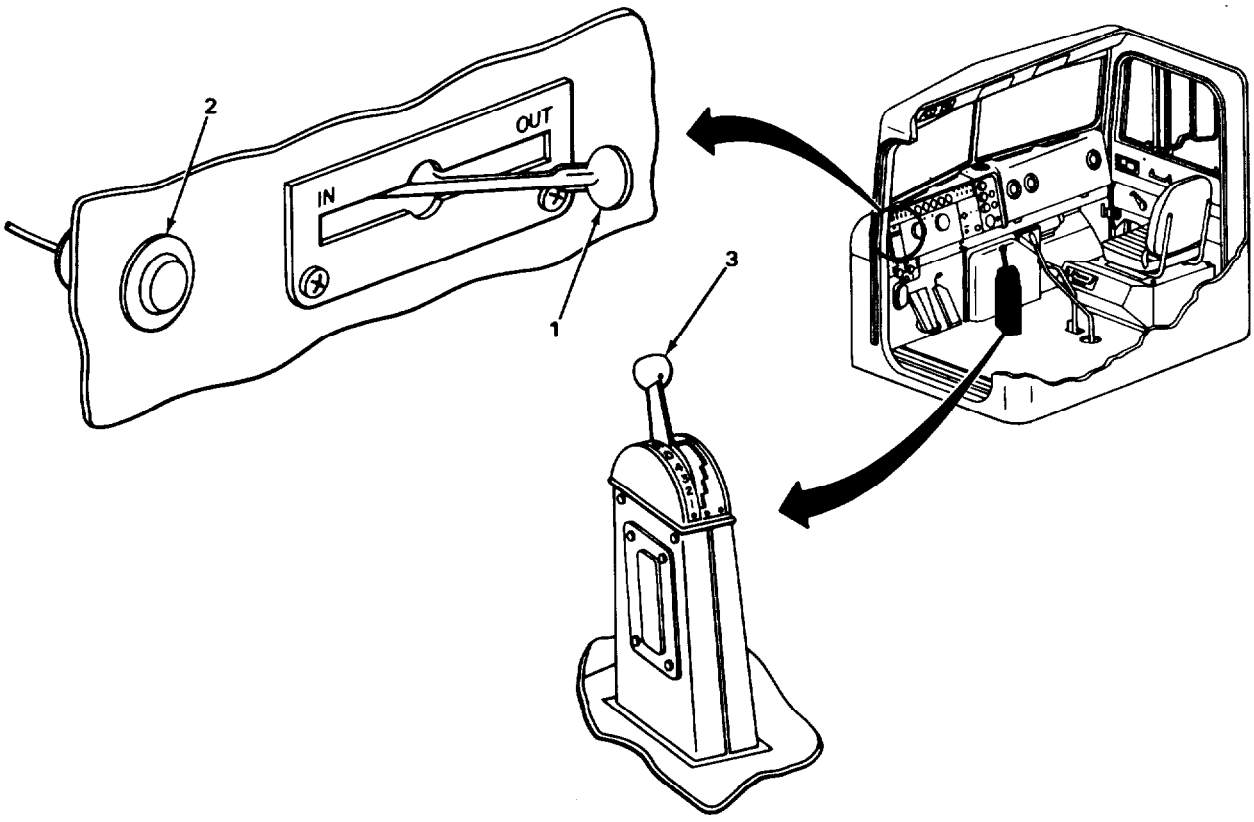
Step 1. Check that POWER DIVIDER lock control (1) is in OUT position.

Step 2. Leave POWER DIVIDER lock control (1) set to OUT position. Power divider lock indicator lamp (2) should go out.

Step 3. Set POWER DIVIDER lock control (1) to IN, then set it to OUT and observe if power divider indicator lamp (2) goes out.

Step 4. Place automatic transmission shift lever control (3) to R (reverse) and back up truck slowly to see if power divider lock indicator lamp (2) goes out.

If power divider lock indicator lamp (2) remains on, notify Organizational Maintenance.



TA234460

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

WHEELS, TIRES, AND HUBS

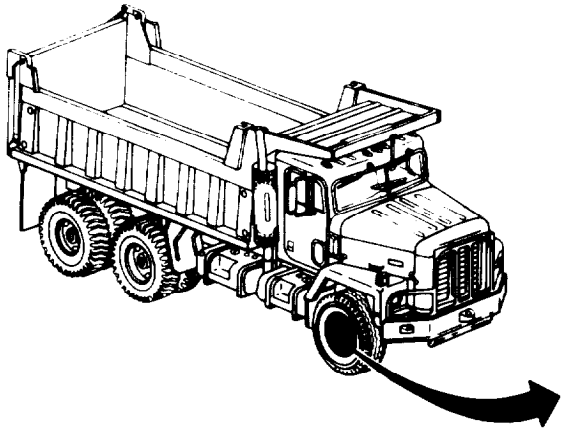
24. WHEEL WOBBLES.

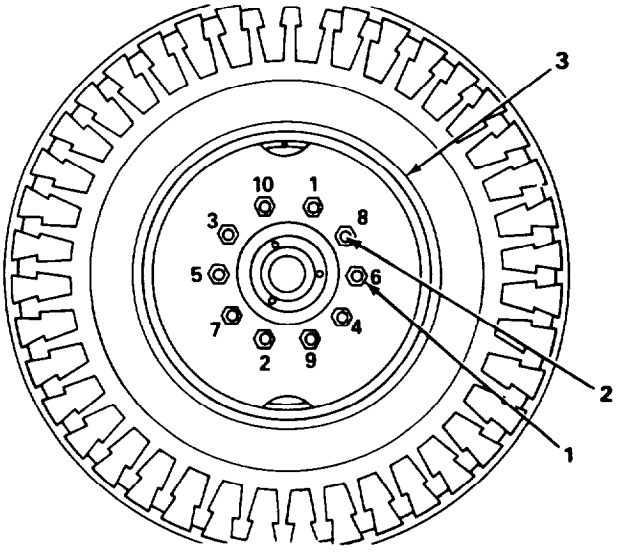
Step 1. Check for loose, damaged, or missing lug nuts (1) or lugs (2).

If lug nuts (1) or lugs (2) are loose, damaged, or missing, notify Organizational Maintenance.

Step 2. Visually check for bent wheels (3).

If wheel (3) is bent, notify Organizational Maintenance.





TA234461

TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

25. DUMP TRUCK WANDERS OR PULLS TO ONE SIDE ON LEVEL GROUND.

Step 1. Visually check for underinflated tires. (See illustration below.)

Step 2. Check tires for proper size and type.

If one or more tires are not proper size (page 1-14), notify Organizational Maintenance.

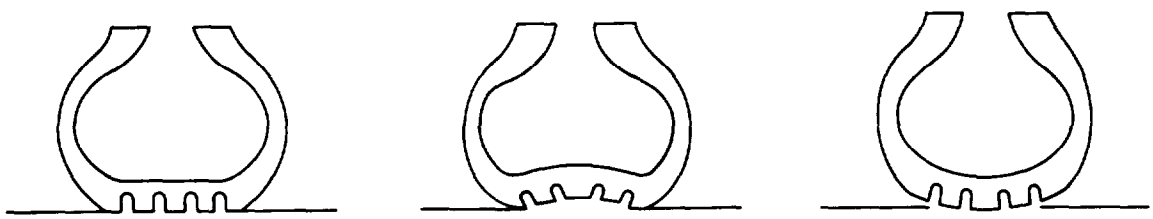
26. EXCESSIVE OR UNEVEN TIRE WEAR.

Step 1. Visually check for underinflated or overinflated tires. (See illustration below.)

If the above conditions exist, notify Organizational Maintenance.

NOTE

Proper inflation, underinflation, and overinflation of tires are illustrated below to aid in determining the tire's condition.



PROPER INFLATION UNDERINFLATION OVERINFLATION

TA234462

TROUBLESHOOTING - CONTINUED

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

WHEELS, TIRES, AND HUBS - CONTINUED

26. EXCESSIVE OR UNEVEN TIRE WEAR - CONTINUED.

Step 2. Visually check for bent wheels (1).

If wheels (1) are bent, notify Organizational Maintenance.

Step 3. Visually check for loose lug nuts (2) or lugs (3).

If lug nuts (2) or lugs (3) are loose, notify Organizational Maintenance.

STEERING

27. STEERING SHIMMIES OR WANDERS.

Step 1. Visually check for underinflated tires. (See illustration page 3-25.)

If tire is underinflated, notify Organizational Maintenance.

Step 2. Visually check for uneven or badly worn tires.

If these conditions are present, notify Organizational Maintenance.

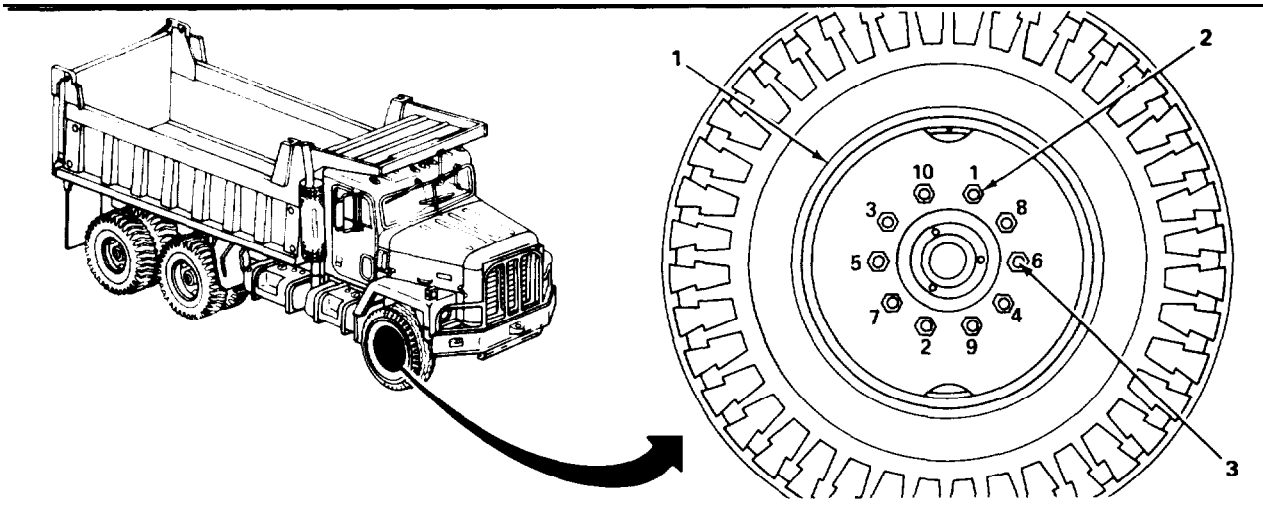
Step 3. Visually check for loose, damaged, or missing lug nuts (2) or lugs (3).

If lug nuts (2) or lugs (3) are loose, damaged, or missing, notify Organizational Maintenance.

Step 4. Visually check for bent wheels (1).

If wheels (1) are bent, notify Organizational Maintenance.

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

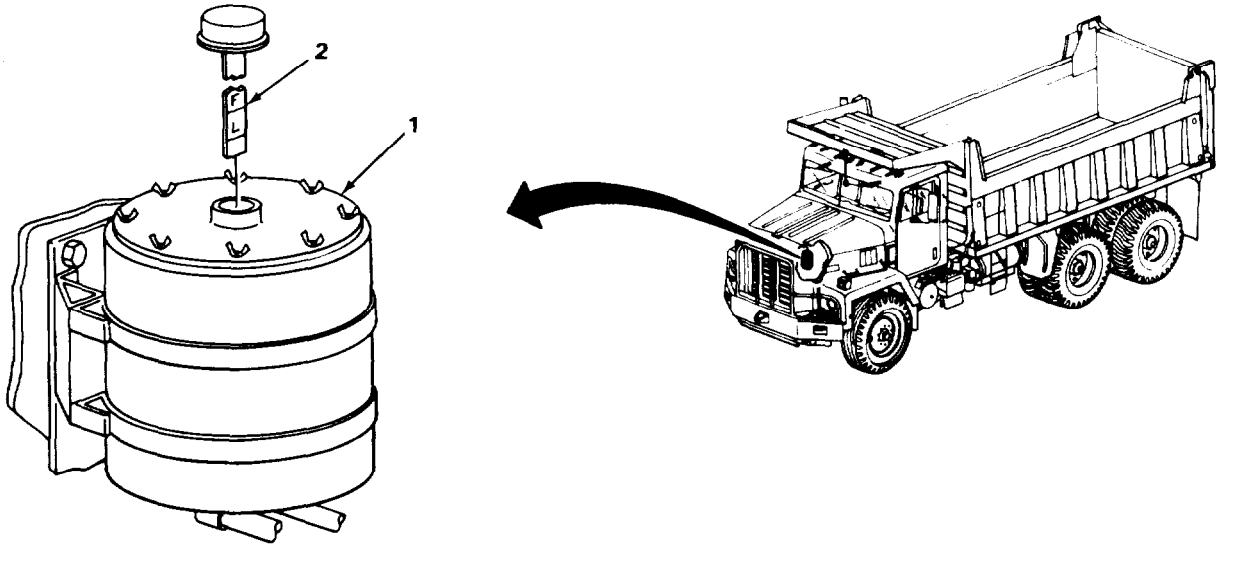


28. DUMP TRUCK IS HARD TO STEER.

Step 1. Perform hood opening procedure (page 2-21).

Step 2. Check power steering fluid level in power steering reservoir (1) (page 2-22).

If fluid level is not between F (full) and L (low) marks on dipstick (2), notify Organizational Maintenance.



Step 3. Visually check front tires for underinflation. (See illustration page 3-25.)

If tires require inflation, notify Organizational Maintenance.

TA234463

TROUBLESHOOTING - CONTINUED

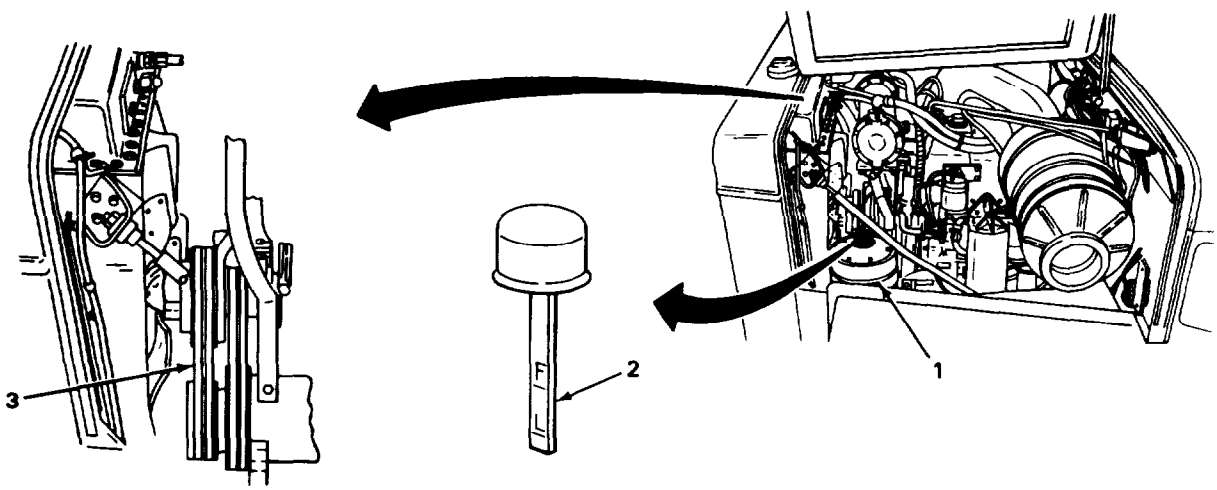
MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

STEERING - CONTINUED

29. STEERING IS DIFFICULT OR SLOW TO RESPOND.

Step 1. Check power steering fluid level in power steering reservoir (1) (page 2-22).

If power steering fluid is not between F (full) and L (low) marks on dipstick (2), notify Organizational Maintenance.



Step 2. Turn steering wheel full left and full right and hold against stops for several seconds while dump truck is not moving. Repeat several times.

If slow response or difficult steering continues, notify Organizational Maintenance.

TA234464

TROUBLESHOOTING - CONTINUED

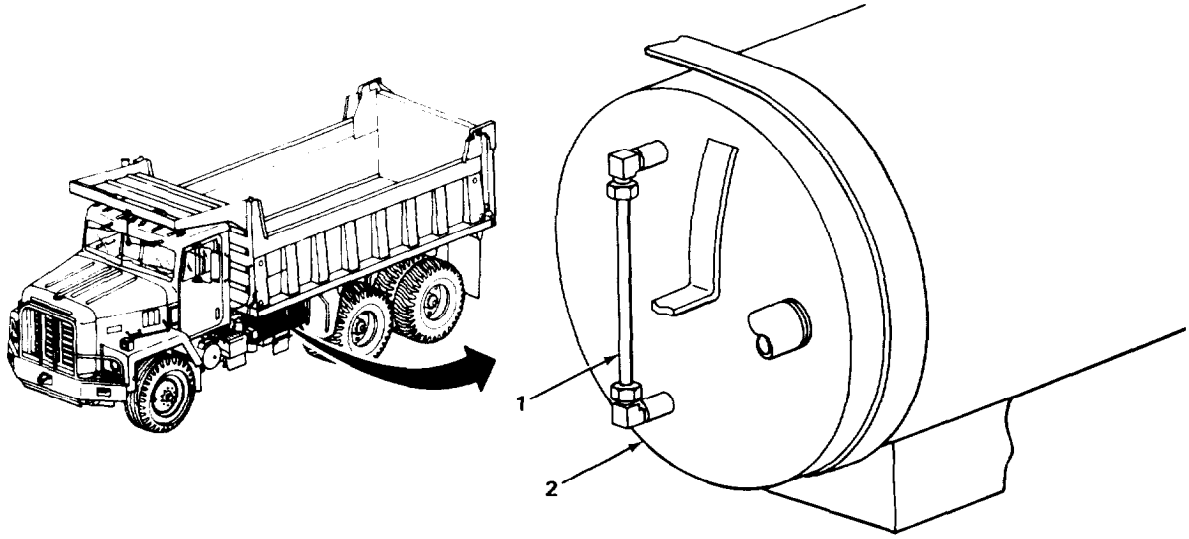
MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

DUMP BODY

30. DUMP BODY WILL NOT RAISE OR RAISES SLOWLY (PTO ENGAGED).

Check hydraulic oil sight gage (1) on oil reservoir (2) with dump body in fully lowered position (page 2-19).

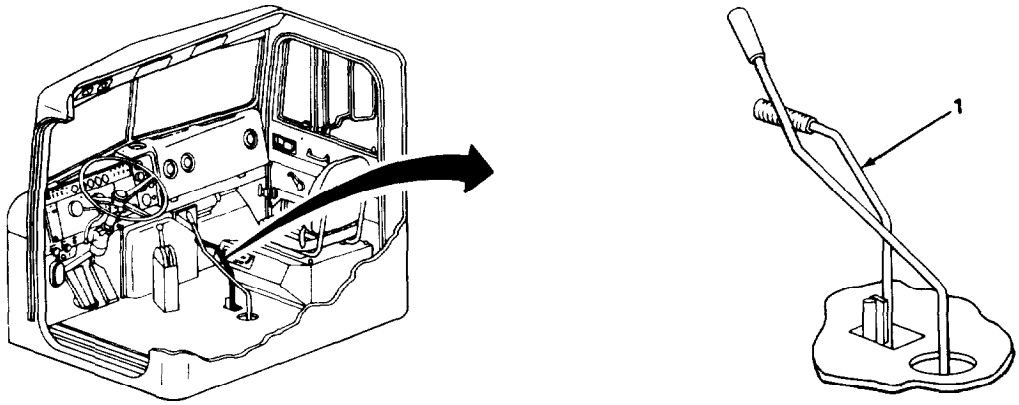
If hydraulic oil is below three-quarters full or not present, notify Organizational Maintenance.



31. DUMP BODY WILL NOT LOWER OR FULLY LOWER.

Pull dump body lever (1) all the way back.

If dump body does not lower or fully lower, notify Organizational Maintenance.



TA234465

Section III. GENERAL MAINTENANCE INSTRUCTIONS

GENERAL

CAUTION

Do not operate equipment suspected of defects that could cause damage to other parts. If at any time during operation, you notice or suspect defects in parts normally checked or replaced by a higher level of maintenance, notify that level of maintenance.

This section contains procedures for cleaning and inspecting the dump truck. To minimize dump truck breakdowns, read and become familiar with all of these instructions.

CLEANING PROCEDURES

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. The flash-point for type #1 drycleaning solvent is 100°F (38°C) and for type #2 is 138°F (59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately. Failure to observe these precautions could cause serious injury or death to personnel.

Cleaning the dump truck enables you to make sure that each component can be inspected properly. Dirt and grease can hide defects and damage. It is very important that you pay attention to what kinds of materials make up a part or assembly.

METAL PARTS

1. Use a clean rag (item 1, appendix D) dampened with drycleaning solvent P-D-680 (item 2, appendix D) to wipe off any stubborn dirt or grease.
2. Wipe dry with clean, dry rags (item 1, appendix D).
3. Repeat steps 1 and 2 if dirt or grease remains on parts.

CLEANING PROCEDURES - CONTINUED

PLASTIC AND RUBBER PARTS

CAUTION

Never clean plastic or rubber parts with petroleum-based solvents. Solvents can ruin rubber and plastic parts.

1. Wipe with clean, dry rags (item 1, appendix D).

2. Repeat step 1 if dirt still remains on parts.

INSPECTION GUIDELINES

Inspection at operator level consists of several visual checks. The reason for inspection is to identify and report possible problems in the operation of the dump truck.

When performing a visual inspection, pay particular attention to areas that are threaded, under pressure, subject to heavy loads, or exposed to weather conditions. Pull, push, or bend flexible parts in order to discover defects or damage that may be hidden at first glance.

THREADED PARTS

Look for crossed, cracked, flattened, or stripped threads. Look for pitting, rusting, chipping, flaking, and cracking metal. Notify Organizational Maintenance when damage or deterioration exists.

HOSES AND LINES

Look for broken, frayed, bent, or flattened hoses and lines. Check hoses for swelling or softness. Check hoses and lines for stains or signs of leaking. Notify Organizational Maintenance when any of these conditions are found.

ELECTRICAL COMPONENTS

Look at terminal posts, contacts, insulation, connectors, and light sockets for cracks, breaks, rust, looseness, burns, fraying, or hardening. If damage is found, notify Organizational Maintenance.

WELDMENTS AND CASTINGS

Look at weldments for chipped paint, rust, gaps, holes, or cracks where parts join together. Look at castings for cracks, breaks, pitting, and abrasive wear caused by vibration Check for cracks around boltholes. If damage is found, notify Organizational Maintenance.

RUBBER AND PLASTIC

Look for cracks, breaks, rips, tears, chips, swelling, and excessive wear. If damage is found, notify Organizational Maintenance.

Section IV. GENERAL MAINTENANCE PROCEDURES

EXHAUST DIVERTER VALVE OPERATION

This task covers:

Inspection (page 3-32)

LOCATION	ITEM	ACTION **REMARKS**
INSPECTION		
1. Exhaust diverter valve (1)	Flipper valve handle (2)	Check for freedom of movement between up and down positions. **Large clearances between moving parts are normal.**

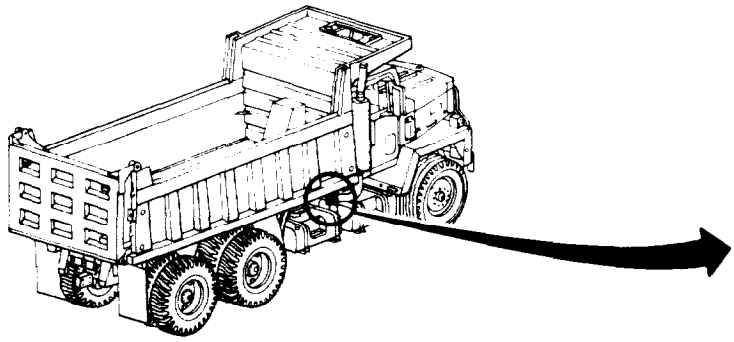
WARNING

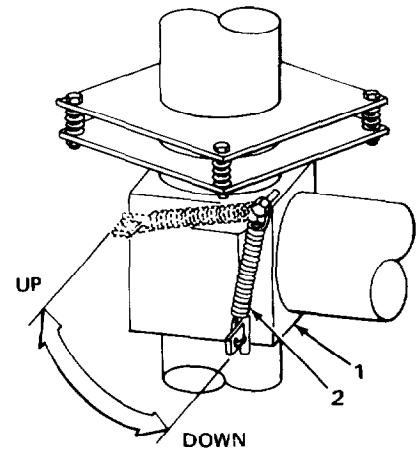
Never carry combustible materials in dump body regardless of position of exhaust diverter valve. Excessive heat could cause combustible payload to ignite, causing fire and possible injury.

Do not operate dump truck in an enclosed area. Breathing excessive exhaust fumes can kill you. If you begin to feel dizzy or develop a headache, seek medical attention immediately.

EXHAUST DIVERTER VALVE OPERATION - CONTINUED

LOCATION	ITEM	ACTION / REMARKS
2. Exhaust diverter valve (1)	Flipper valve handle (2)	With engine running, move to up and down positions while visually checking for exhaust being directed to either the exhaust stack or dump body. **Notify Organizational Maintenance if exhaust diverter valve is not operating properly.**





TASK ENDS HERE

BATTERY

This task covers:

Battery fluid level inspection (page 3-34)

INITIAL SETUP

Equipment Condition

Battery compartment cover removed (page 2-18).

TA234988

BATTERY - CONTINUED

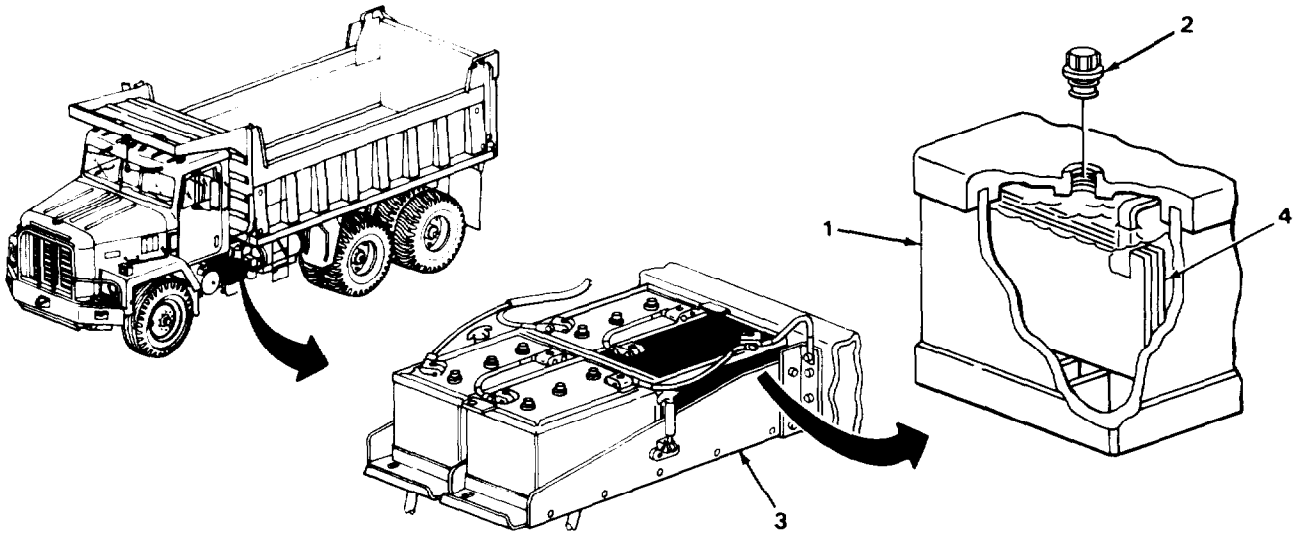
LOCATION	ITEM	ACTION REMARKS

BATTERY FLUID LEVEL INSPECTION

WARNING

When checking batteries, do not smoke or use flame in the area. Batteries generate hydrogen, which is highly explosive. Injury or death could result from an explosion.

1. Battery (1)	Battery cap (2)	Unscrew and remove.
2. Battery compartment (3)	Battery (1)	Check battery fluid level. **Notify Organizational Maintenance if battery fluid is not covering battery plates (4).**
3. Battery (1)	Battery cap (2)	Screw in and tighten.



TASK ENDS HERE

ALCOHOL EVAPORATOR RESERVOIR

This task covers:

Alcohol level inspection (page 3-35)

TA234989

ALCOHOL EVAPORATOR RESERVOIR - CONTINUED

LOCATION	ITEM	ACTION **REMARKS**

ALCOHOL LEVEL INSPECTION

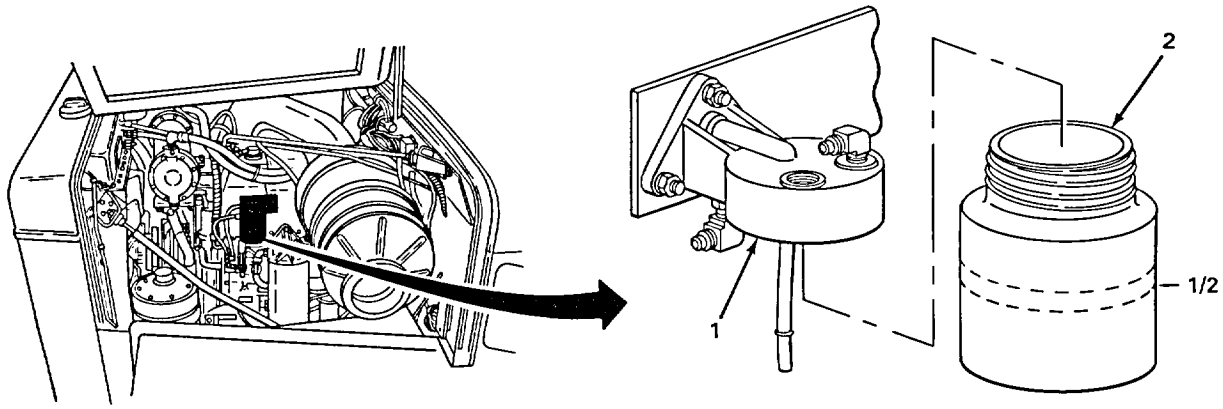
WARNING

Alcohol is a flammable and combustible liquid. Do not smoke or allow open flames or sparks into areas where combustible materials are used. Death or serious injury could result. If you are burned, seek medical aid immediately.

1. Alcohol evaporator (1)

Alcohol evaporator reservoir (2)

a. Turn counterclockwise to unscrew and remove.
b. Check alcohol level.
Notify Organizational Maintenance to fill if alcohol level Is below one-half full.
c. Turn clockwise to screw on and tighten.



TASK ENDS HERE

TA234990

POWER STEERING OIL RESERVOIR

This task covers:

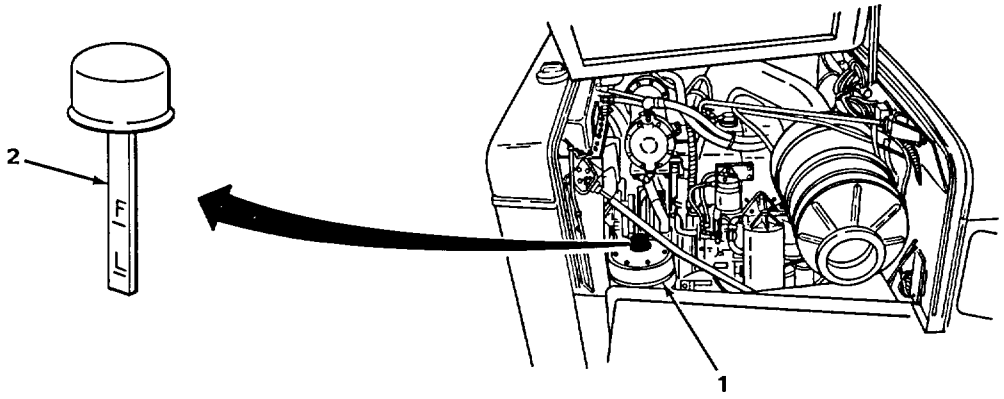
Checking fluid level (page 3-36)

INITIAL SETUP

Materials/Parts

Rags, wiping (item 1, appendix D)

LOCATION	ITEM	ACTION **REMARKS**
CHECKING FLUID LEVEL		
Power steering reservoir (1)	Dipstick (2)	a. Pull up and out. b. Using wiping rag, wipe clean. c. Put in completely. d. Pull up and out. **Notify Organizational Maintenance if fluid level is not between F (full) and L (low) mark on dipstick.** e. Put in completely.



TASK ENDS HERE

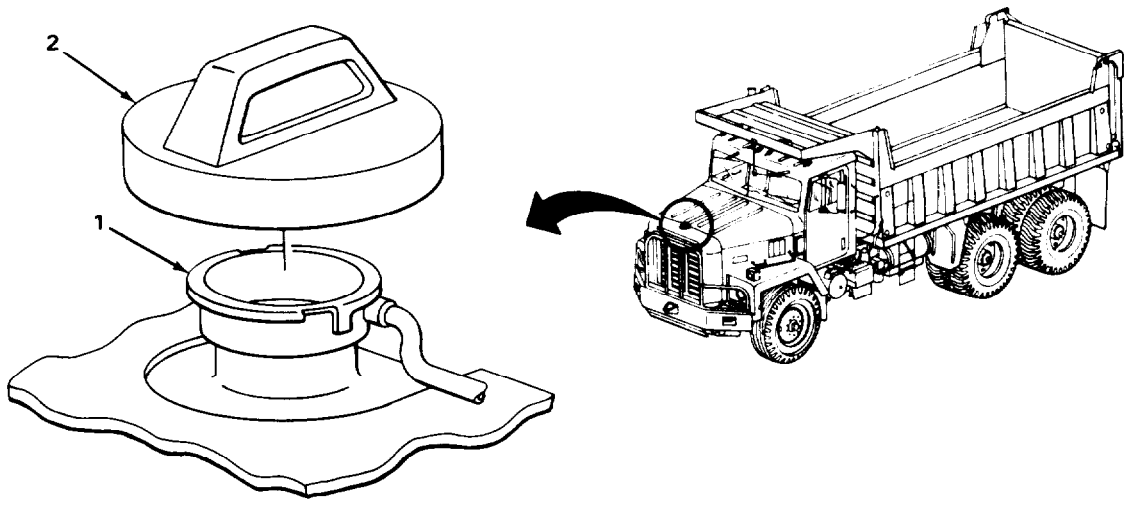
TA234991

RADIATOR

This task covers:

Coolant level inspection (page 3-37)

LOCATION	ITEM	ACTION	REMARKS
COOLANT LEVEL INSPECTION			
		WARNING Do not remove radiator cap when engine reaches or exceeds operating temperature, 165° to 195°F (74° to 90°C). To avoid injury, shut down engine and allow radiator to cool before removing cap. Allow engine to cool before filling radiator to avoid damage to engine or injury to personnel.	
Radiator filler neck (1)	Radiator cap (2)	a. Push down while turning counterclockwise and remove. b. Check coolant level.	**Notify Organizational Maintenance if coolant level is more than 1 inch below bottom of radiator filler neck.**
		c. Put on, turning clockwise to tighten.	



TASK ENDS HERE

TA234992

ENGINE OIL DIPSTICK

This task covers:

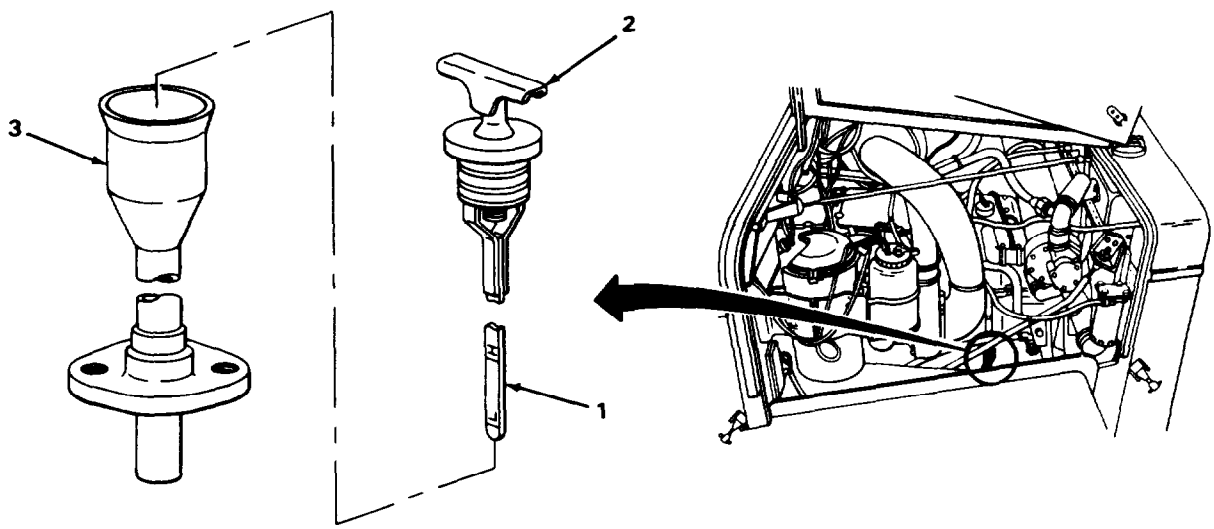
Checking engine oil level (page 3-38)

INITIAL SETUP

Materials/Parts

Rags, wiping (item 1, appendix D)

LOCATION	ITEM	ACTION / REMARKS
CHECKING ENGINE OIL LEVEL		
1. Engine oil dipstick (1)	Handle (2)	Turn counterclockwise to loosen.
2. Engine oil dipstick tube (3)	Engine oil dipstick (1)	a. Pull out. b. Using wiping rag, wipe clean. c. Put completely in. d. Pull out. **Notify Organizational Maintenance if engine oil level Is not between H (high) and L (low) marks.** e. Put completely in.
3. Engine oil	Handle (2)	Turn clockwise to tighten.



TASK ENDS HERE

TA234993

MAIN TRANSMISSION OIL DIPSTICK

This task covers:

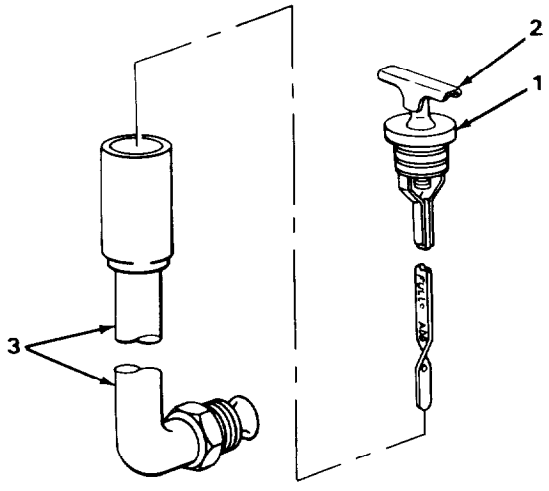
Checking main transmission oil level
(page 3-39)

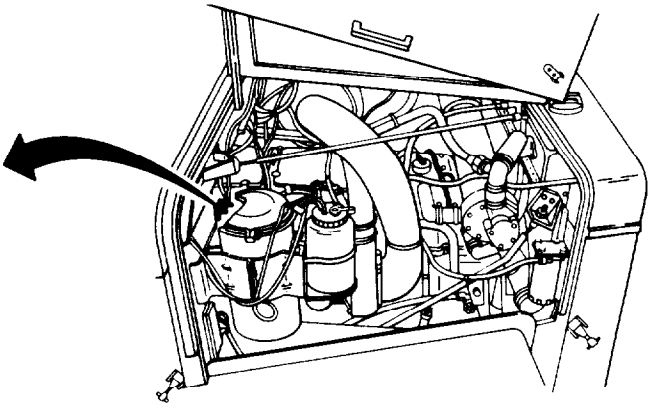
INITIAL SETUP

Materials/Parts

Rags, wiping (item 1, appendix D)

LOCATION	ITEM	ACTION / REMARKS
CHECKING MAIN TRANSMISSION OIL LEVEL		
1. Main transmission oil dipstick (1)	Handle (2)	Turn counterclockwise to loosen.
2. Main transmission oil dipstick tube (3)	Main transmission oil dipstick (1)	a. Pull out. b. Using wiping rag, wipe clean. c. Put completely in. d. Pull out. **Notify Organizational Maintenance if main transmission oil level is not between FULL and ADD marks.** e. Put completely in.
3. Main transmission oil dipstick (1)	Handle (2)	Turn clockwise to tighten.





TASK ENDS HERE

TA234994

APPENDIX A

REFERENCES

A-1. SCOPE.

This appendix lists all forms, field manuals, technical manuals, and miscellaneous publications referenced in this manual.

A-2. FORMS.

Recommended Changes to Publications and Blank Forms	DA Form 2028
Recommended Changes to Equipment Technical Publications	DA Form 2028-2
Hand Receipt/Annex Number	DA Form 2062
Equipment Inspection and Maintenance Worksheet	DA Form 2404
Product Quality Deficiency Report	SF 368

A-3. PUBLICATION INDEXES.

The following indexes should be checked often to see if there have been changes, revisions, or new publications that apply to material covered in this manual.

Consolidated Index of Army Publications and Blank Forms	DA PAM 25-30
The Army Maintenance Management System (TAMMS)	DA PAM 738-750

A-4. FIELD MANUALS.

Operation and Maintenance of Ordnance Materiel in Extreme Cold Weather (00 to -650F)	FM 9-207
First Aid for Soldiers	FM 21-11
Basic Cold Weather Manual	FM 31-70
Northern Operations	FM 31-71

A-5. TECHNICAL BULLETINS.

Equipment Improvement Report and Maintenance Digest (U.S. Army Tank-Automotive Command) Tank Automotive Equipment	TB 43-0001-39

A-6. TECHNICAL MANUALS.

Cooling Systems: Tactical Vehicles	TM 750-254
Operator's, Unit, Direct Support, and General Support Maintenance Manual for Care, Maintenance, Repair, and Inspection of Pneumatic Tires and Inner Tubes	TM 9-2610-200-14

A-7. MISCELLANEOUS PUBLICATIONS.

Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items)	CTA 50-970

APPENDIX B

COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS LIST

Section I. INTRODUCTION

B-1. SCOPE.

This appendix lists components of end item and basic issue items for the F-5070 dump truck to help you inventory items required for safe and efficient operation.

B-2. GENERAL.

The Components of End Item and Basic Issue Items Lists are divided into the following sections:

a. Section II. Components of End Item. This listing is for informational purposes only and is not authority to requisition replacements. These items are part of the end item, but are removed and separately packaged for transportation or shipment. As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts. Illustrations are furnished to assist you in identifying the items.

b. Section III. Basic Issue Items. These are the minimum essential items required to place the F5070 dump truck in operation, to operate it, and to perform emergency repairs. Although shipped separately packaged, BII must be with the F-5070 dump truck during operation and whenever it is transferred between property accounts. The illustrations will assist you with hard-to-identify items. This manual is your authority to request/requisition replacement BII, based on TOE/MTOE authorization of the end item.

B-3. EXPLANATION OF COLUMNS.

The following provides an explanation of columns found in the tabular listings:

a. Column 1, Illustration Number (Illus No.). This column indicates the number of the illustration in which the item is shown.

b. Column 2, National Stock Number. Indicates the national stock number assigned to the item and will be used for requisitioning purposes.

c. Column 3, Description. Indicates the federal item name and, if required, a minimum description to identify and locate the item. The last line for each item indicates the FSCM (in parentheses) followed by the part number.

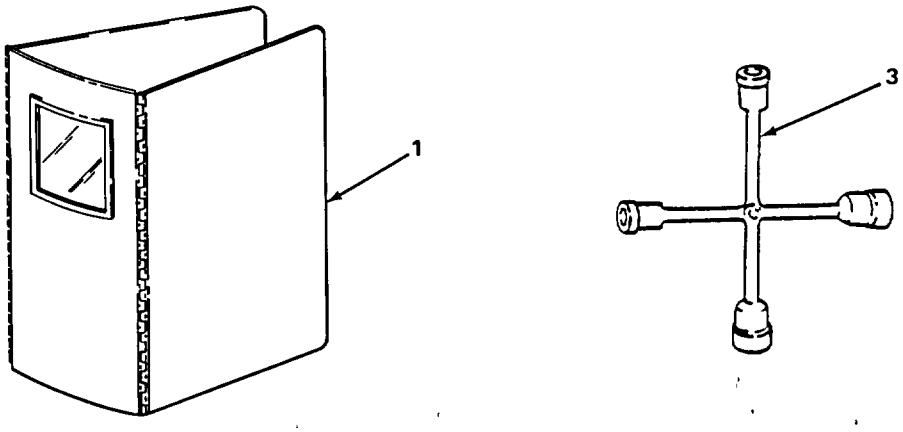
d. Column 4, Unit of Measure (U/M). Indicates the measure used in performing the actual operational/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (eg, ea, in., pr).

e. Column 5, Quantity Required (Qty Req'd). Indicates the quantity of the item authorized to be used with/on the equipment.

Section II. COMPONENTS OF END ITEM

NOT APPLICABLE

Section III. BASIC ISSUE ITEMS



(1) ILLUS NO.	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION FSCM AND PART NUMBER	(4) U/M	(5) QTY REQ'D
1	7510-00-281-4309	Binder, King Book (70063) DF1704	EA	1
NI		Case, Cotton Duck (81349) MIL-B-11743	EA	1
2	Item Deleted			
3	5120-00-316-9217	Wrench, Lug (31007) 58607R1	EA	1

TA702197

APPENDIX D

EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

D-1. SCOPE.

This appendix lists expendable supplies and materials you will need to operate and maintain the F-5070 dump truck. These items are authorized to you by CTA 50-970, Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

D-2. EXPLANATION OF COLUMNS.

a. Column 1, Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (eg, use cleaning compound, item 5, appendix D).

b. Column 2, Level. This column identifies the lowest level of maintenance that requires the listed item.

C - Operator/Crew

c. Column 3, National Stock Number. This is the national stock number assigned to the item; use it to request or requisition the item.

d. Column 4, Description. Indicates the federal item name, and, if required, a description to Identify the item. The last line for each item Indicates the Commercial and Government Entity (CAGE) Code in parentheses followed by the part number.

e. Column 5, Unit of Measure (U/M). Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (eg, ea, in., pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION (CAGE)	(5) U/M
1		7920-00-205-1711	Rags, Wiping (58536) A-A-531 50-Pound Bale	lb
2			Solvent, Drycleaning (81348) P-D-680 Type II	
		6850-00-664-5685	1-Quart Can	oz
		6850-00-281-1985	1-Gallon Can	gl
		6850-00-285-8011	55-Gallon Drum	gl

APPENDIX E

STOWAGE AND SIGN GUIDE

Section I. INTRODUCTION

E-1. SCOPE.

This appendix shows the location for stowage of equipment and material required to be carried on the dump truck.

E-2. GENERAL.

The following illustrations show the location of decals and data plates used on the dump truck. Some are cautions or information that you need to safely operate the dump truck.

Section II. DECALS AND DATA PLATES

WARRANTY

International Harvester Company hereby guarantees this vehicle and parts thereof against defective material and workmanship for a period of one year from the date of acceptance or 12 000 miles whichever may occur first

All complaints for corrective action can be placed with International Harvester Company 401 N Michigan Avenue Chicago Illinois 60611 Government Sales Department

The above warranty applies to vehicles delivered in the continental United States Any other vehicles are covered by special provisions of the specific Government Contract and questions concerning those vehicles should be directed to the Contracting Officer or his authorized representative

INTERNATIONAL HARVESTER COMPANY
Chicago Illinois 60611 U S A

PRINTED IN UNITED STATES OF AMERICA

SERVICE PARTS

Genuine IH service parts are of the same high quality as these built into this International, providing the best for your vehicle, maintaining IH rigid standards

GSA Federal Supply Schedule provides for purchase of these IH parts through
International Harvester
Government Parts Sales
2827 Rupp Drive
Fort Wayne IN 46805
Phone (219) 484 2627

Parts will be shipped from any of the nine depots strategically located throughout the United States and all over the World to give dependable parts for quick, efficient repairs

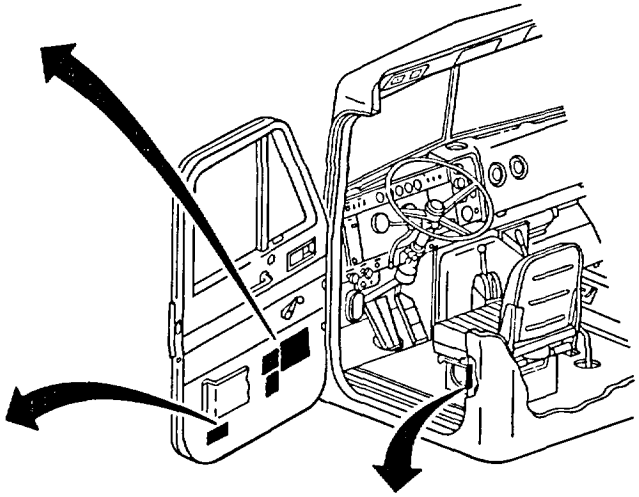
IH 1075

MFG BY

Inc V
GVWR _____
GAWR FRONT _____ GAWR 1st Intermediate _____
GAWR 2nd Intermediate _____ GAWR REAR _____
This vehicle conforms to all applicable Federal motor vehicle safety standards in effect at time of final manufacture
VEHICLE IDENTIFICATION NO _____
CLASSIFICATION _____

TIE-DOWN POINTS

FORWARD	1	FRONT TOWING LOOP (FRAME TIE)
	2	FRONT AXLE I BEAM AT SPRING PAD BOTH SIDES
REARWARD	3	FRONT AXLE I BEAM AT SPRING PAD BOTH SIDES
	4	TRAILING REAR AXLE GUIDE BLOCK
	5	PINTLE HOOK (FRAME TIE)
SIDEWISE	6	THROUGH WEB OF WHEEL DISC ANY OR ALL WHEELS

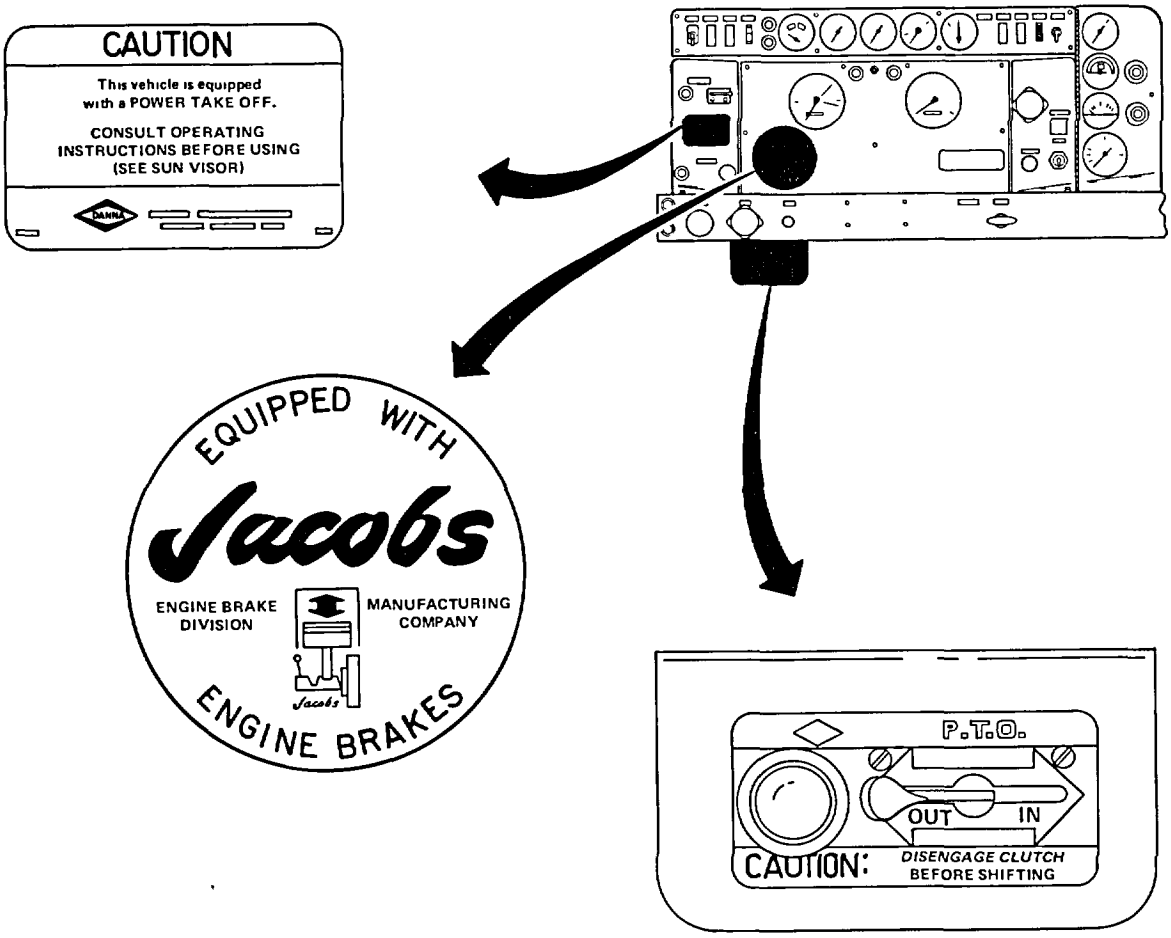


INTERNATIONAL HARVESTER COMPANY
CHICAGO, ILLINOIS
VIN MODEL W.B.
DATE MFG. PD LOC-DATE
MAX. G.V.W.-LBS. MAX. G.C.W.-LBS.
WARRANTY VOID IF ABOVE WEIGHT IS EXCEEDED EXCEPT AS RESTRICTED BY TIRES AND SPRINGS
MADE IN UNITED STATES OF AMERICA

INSIDE ROADSIDE DOOR

TA234429

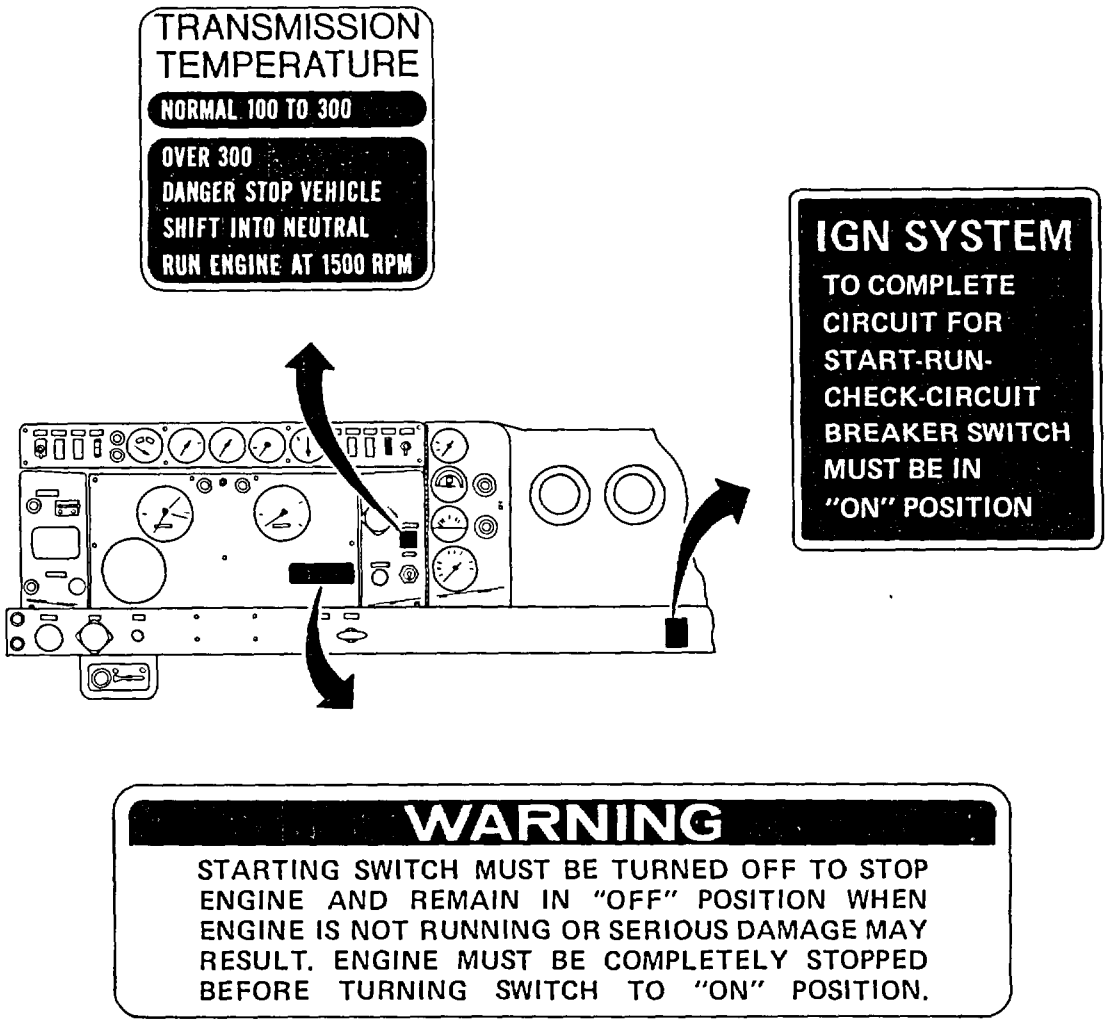
Section II. DECALS AND DATA PLATES - CONTINUED



INSTRUMENT PANEL

TA234430

Section II. DECALS AND DATA PLATES - CONTINUED



INSTRUMENT PANEL

TA234431

Section II. DECALS AND DATA PLATES - CONTINUED

WHEN SPREADING WITH P.T.O. ENGAGED, OPERATE TRANSMISSION IN 1ST GEAR ONLY.

FAILURE TO COMPLY WILL VOID WARRANTY.

WARNING

THIS ENGINE IS EQUIPPED WITH AN AUTOMATIC ALARM AND SHUTDOWN SYSTEM
ALARM LIGHT AND BUZZER INDICATES LOW OIL PRESSURE OR HIGH ENGINE TEMPERATURE

STOP ENGINE IMMEDIATELY

AUTOMATIC SHUTDOWN OF ENGINE OCCURS FOLLOWING ALARM
ALARMS NORMALLY ACTIVATE WHEN ENGINE IS STARTING

CAUTION

IDLE THIS ENGINE 3 MINUTES BEFORE SHUTDOWN

If this engine is shut down without idling serious damage may result to the turbocharger

JACOBS ENGINE BRAKE OPERATING INSTRUCTIONS

1 PLACE DASH SWITCH IN ON POSITION AFTER VEHICLE STARTS IN MOTION EMPLOY NORMAL DRIVING HABITS AS SECONDARY SWITCHES ON CLUTCH AND ACCELERATOR CONTROL ENGINE BRAKE OPERATION SLIGHT PRESSURE ON EITHER CLUTCH OR ACCELERATOR PEDALS WILL DEENERGIZE ENGINE BRAKE DURING LONG PERIODS OF IDLE

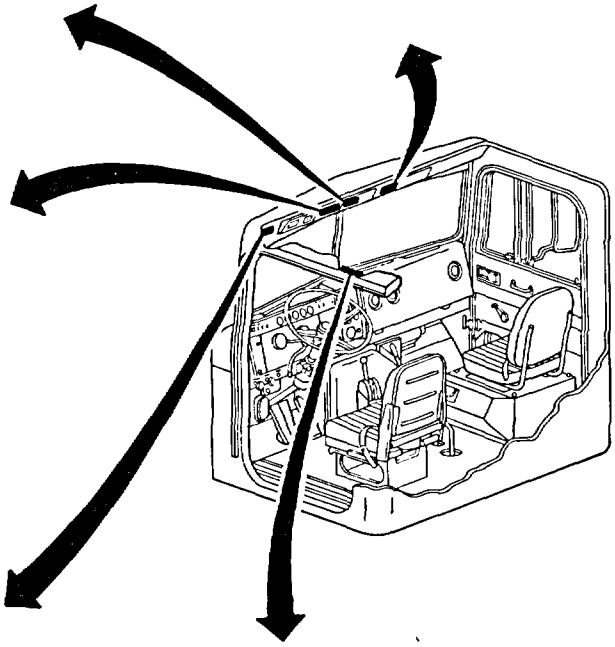
2 MAINTAIN GOVERNED SPEED OF VEHICLE ENGINE WHEN ENGINE BRAKE IS IN USE TO OBTAIN MAXIMUM RETARDING

3 PLACE DASH SWITCH IN OFF POSITION WHEN VEHICLE IS PARKED

ENGINE BRAKE DIVISION MFG CO
WEST HARTFORD CONNECTICUT 06110 U S A

Patents

GREAT BRITAIN, ITALY, SWEDEN, UNITED STATES, JAPAN, BELGIUM, CANADA, NEW ZEALAND, ARGENTINA, GERMANY, NORWAY, BRAZIL, FRANCE BREVETE S G D G, MEXICO, CHILE, VENEZUELA, NETHERLANDS



CUMMINS DIESEL ENGINE

COLD WEATHER STARTING INSTRUCTIONS

1 SET THROTTLE IN IDLE POSITION
2 GIVE ONE OR TWO STROKES TO PREHEATER PUMP–JUST ENOUGH TO PRIME IT–THEN STOP PUMPING IMMEDIATELY OVER PRIMING WILL WET GLOW PLUG AND DELAY IGNITION
3 CLOSE PREHEATER SWITCH RED INDICATOR LIGHT WILL BURN WHEN CURRENT IS FLOWING TO GLOW PLUG
4 AFTER SWITCH HAS BEEN CLOSED FOR TWENTY SECONDS CRANK ENGINE WHILE OPERATING PREHEATER PUMP TO MAINTAIN 80 TO 100 P S I FUEL PRESSURE
5 AFTER ENGINE STARTS MAINTAIN ONLY SUFFICIENT FUEL PRESSURE TO KEEP ENGINE IDLING SMOOTHLY PRESSURE MAY VARY BETWEEN 40 AND 100 P S I
6 WHEN ENGINE HAS WARMED UP UNTIL IT DOES NOT FALTER BETWEEN PREHEATER PUMP STROKES STOP PUMPING, LOCK PUMP, AND MOVE PREHEATER SWITCH TO 'OFF'

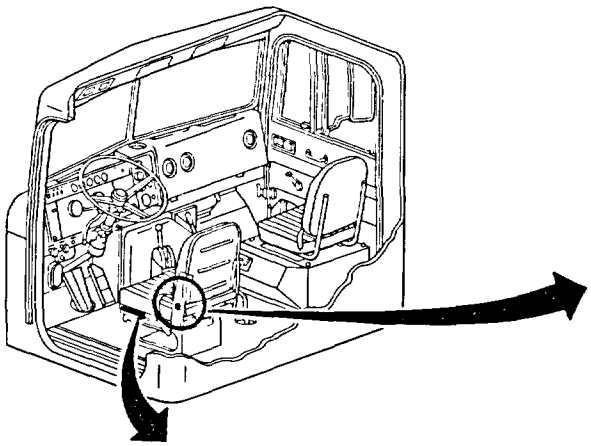
IMPORTANT

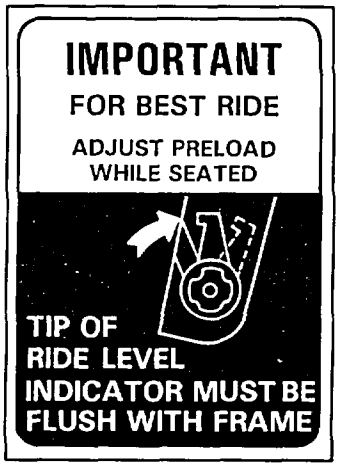
WHEN INSTALLING REAR WHEELS INSIDE WHEEL HAND HOLE MUST BE OVER BRAKE DRUM INSPECTION HOLE.

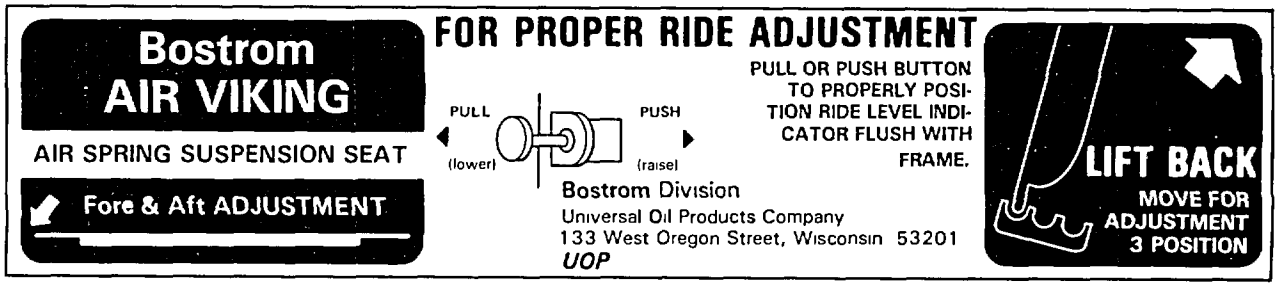
UPPER CAB

TA234432

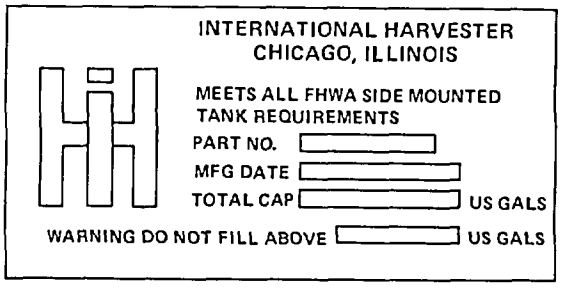
Section II. DECALS AND DATA PLATES - CONTINUED



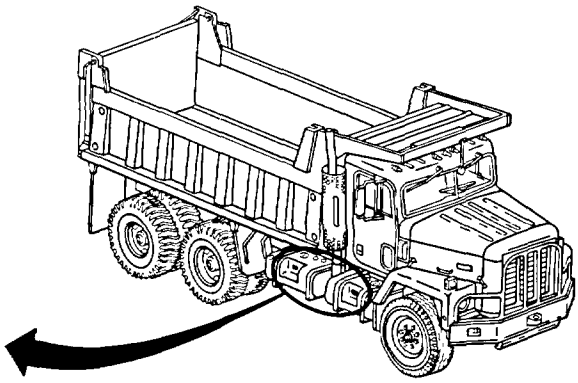




SEAT



TYPICAL 2 PLACES



FUEL TANK

TA234433

INDEX

INDEX - CONTINUED

INDEX - CONTINUED

INDEX - CONTINUED

INDEX - CONTINUED

Subject Page

F - CONTINUED

G

H

INDEX - CONTINUED

Subject Page

H - CONTINUED

I

L

INDEX - CONTINUED

Subject Page

L - CONTINUED

M

INDEX - CONTINUED

INDEX - CONTINUED

Subject Page

P - CONTINUED

INDEX - CONTINUED

INDEX - CONTINUED

INDEX - CONTINUED

INDEX - CONTINUED

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THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

1 Centimeter=10 Millimeters=0.01 Meters=0.3937 Inches
1 Meter=100 Centimeters=1000 Millimeters=39.37 Inches
1 Kilometer=1000 Meters=0.621 Miles

WEIGHTS

1 Gram=0.001 Kilograms=1000 Milligrams=0.035 Ounces
1 Kilogram=1000 Grams=2.2 Lb
1 Metric Ton=1000 Kilograms=1 Megagram=1.1 Short Tons

LIQUID MEASURE

1 Milliliter=0.001 Liters=0.0338 Fluid Ounces
1 Liter=1000 Milliliters=33.82 Fluid Ounces

SQUARE MEASURE

1 Sq Centimeter=100 Sq Millimeters=0.155 Sq Inches
1 Sq Meter=10,000 Sq Centimeters=10.76 Sq Feet
1 Sq Kilometer=1,000,000 Sq Meters=0.0386 Sq Miles

CUBIC MEASURE

1 Cu Centimeter=1000 Cu Millimeters=0.06 Cu Inches
1 Cu Meter=1,000,000 Cu Centimeters=35.31 Cu Feet

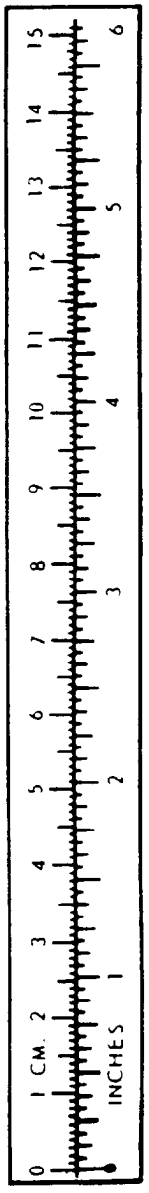
TEMPERATURE

5/9 (°F – 32) = °C
212° Fahrenheit is equivalent to 100° Celsius
90° Fahrenheit is equivalent to 32.2° Celsius
32° Fahrenheit is equivalent to 0° Celsius
9/5 C° +32=F°

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	5.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.385
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
Kilometers per Liter	Miles per Gallon	2.354
Kilometers per Hour	Miles per Hour	0.621



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