

Lighting Products

Parts Breakdown Drawings

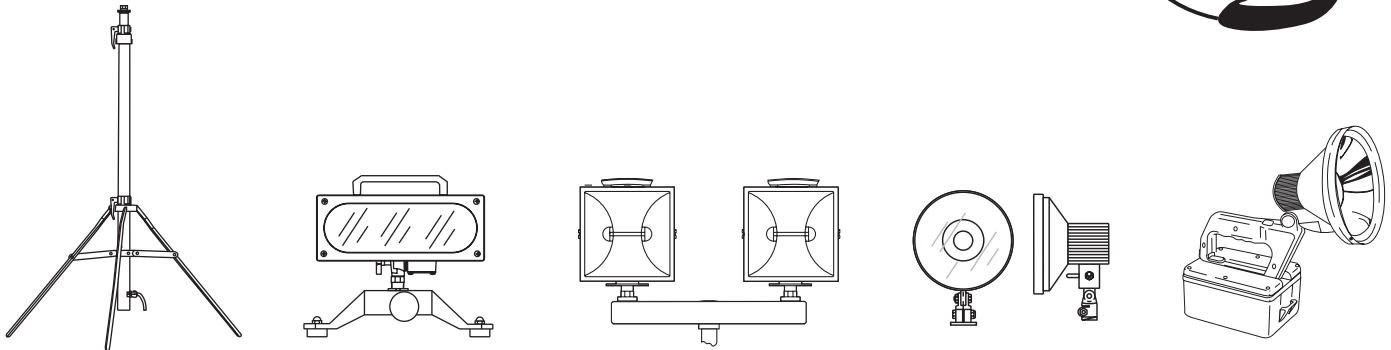
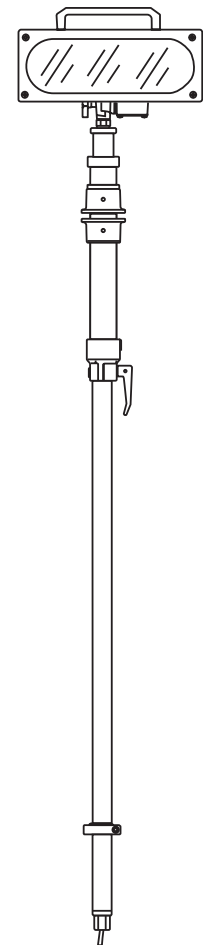


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* Individual Breakdown links available via www.havis.com



Havis-Shields
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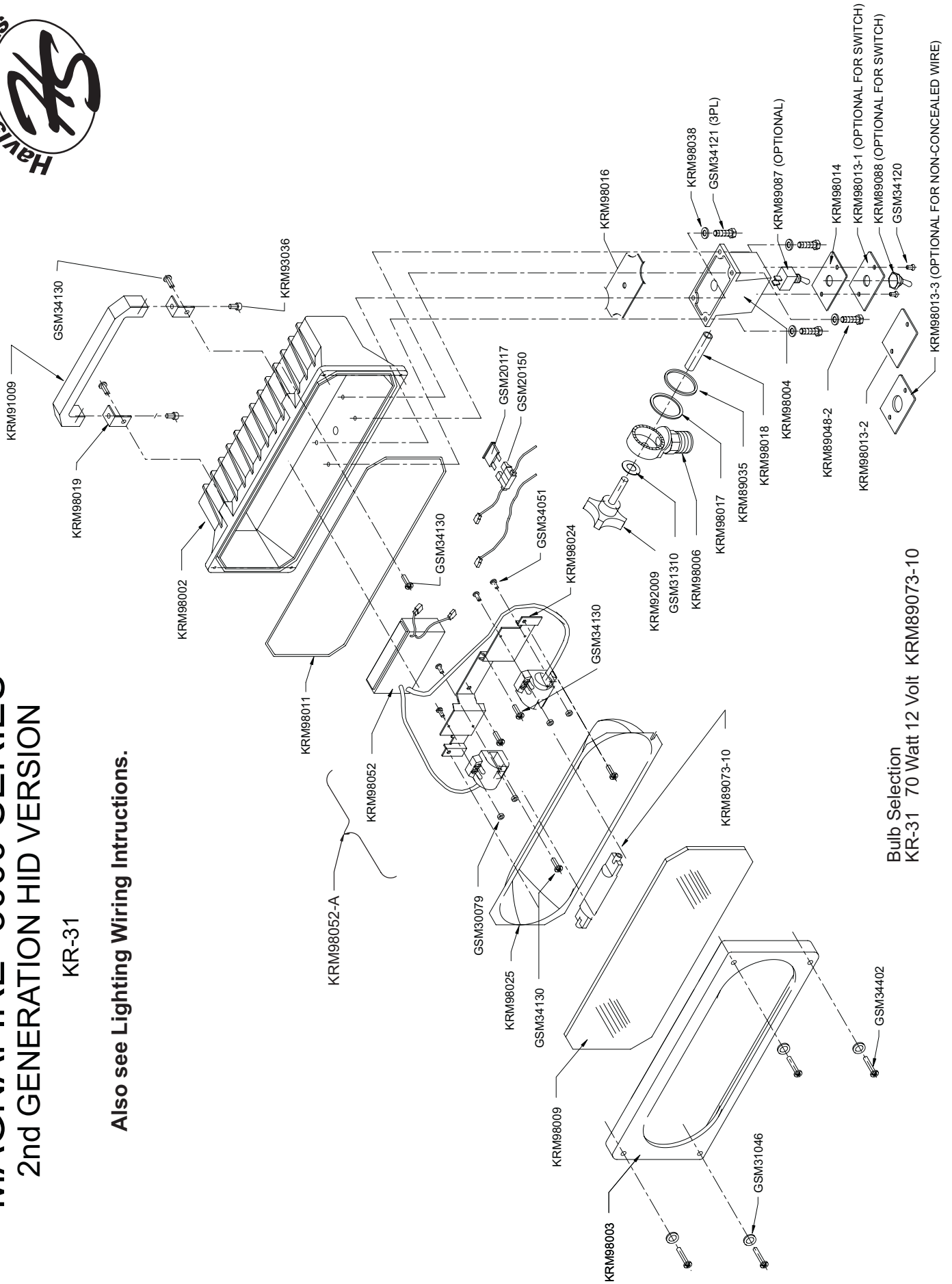
Website: www.havis.com



MAGNAFIRE® 3000 SERIES 2nd GENERATION HID VERSION

KR-31

Also see Lighting Wiring Instructions.



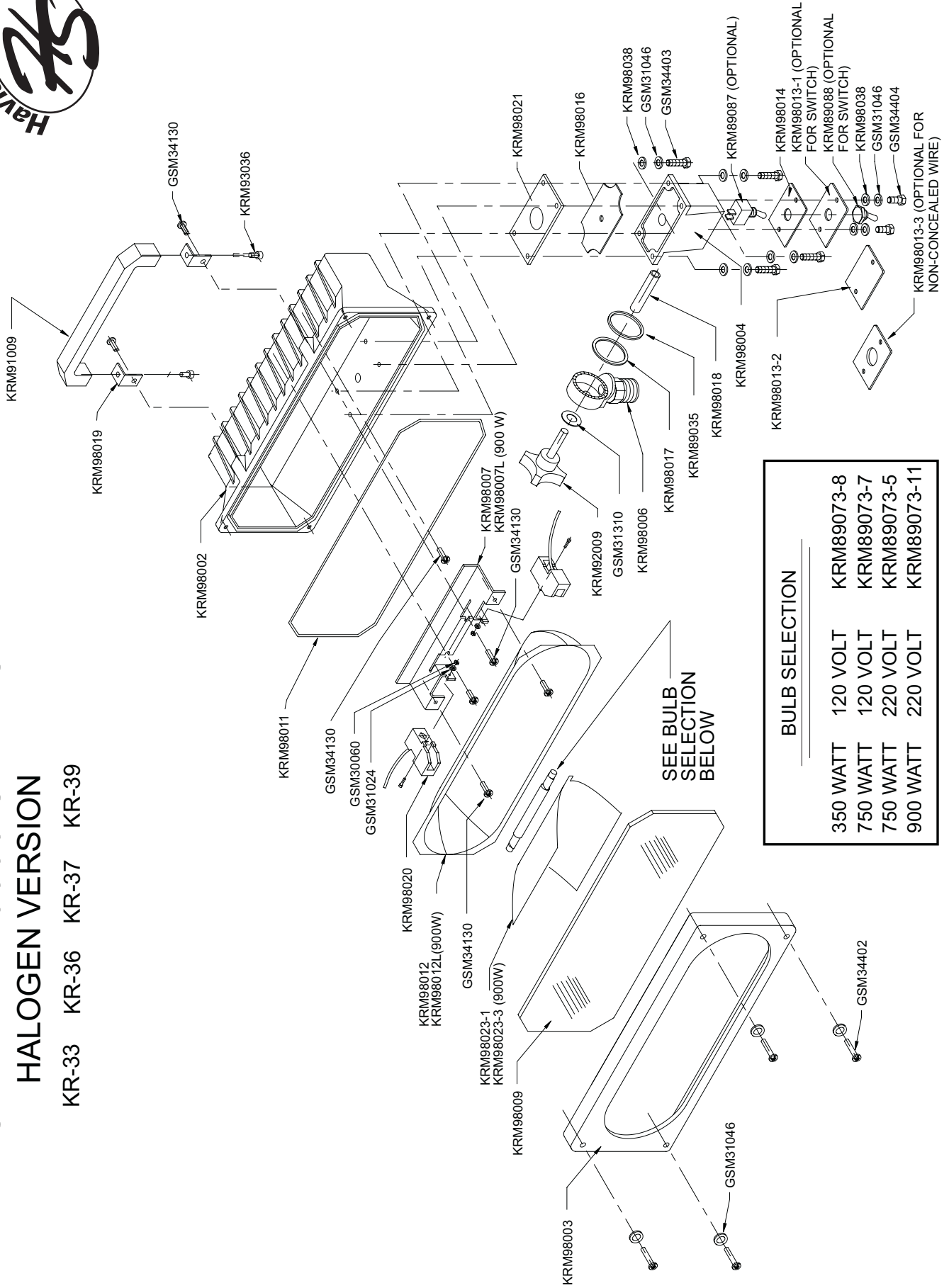
Bulb Selection
KR-31 70 Watt 12 Volt KRM89073-10



MAGNAFIRE® 3000 SERIES

HALOGEN VERSION

KR-33 KR-36 KR-37 KR-39



SEE BULB SELECTION BELOW

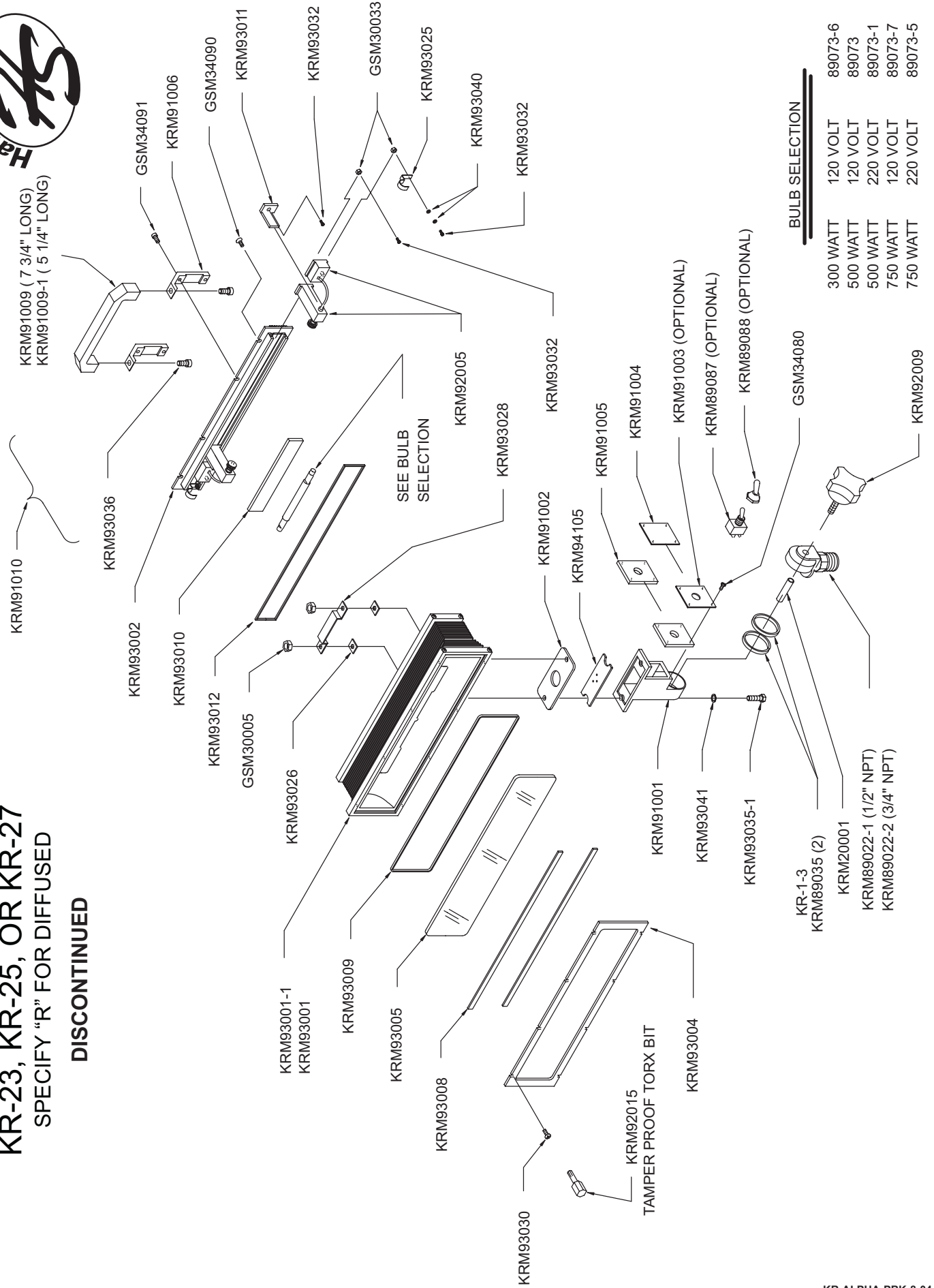
BULB SELECTION	
350 WATT	KRM89073-8
750 WATT	KRM89073-7
750 WATT	KRM89073-5
900 WATT	KRM89073-11

ALPHA 2000® SERIES

KR-23, KR-25, OR KR-27

SPECIFY "R" FOR DIFFUSED

DISCONTINUED



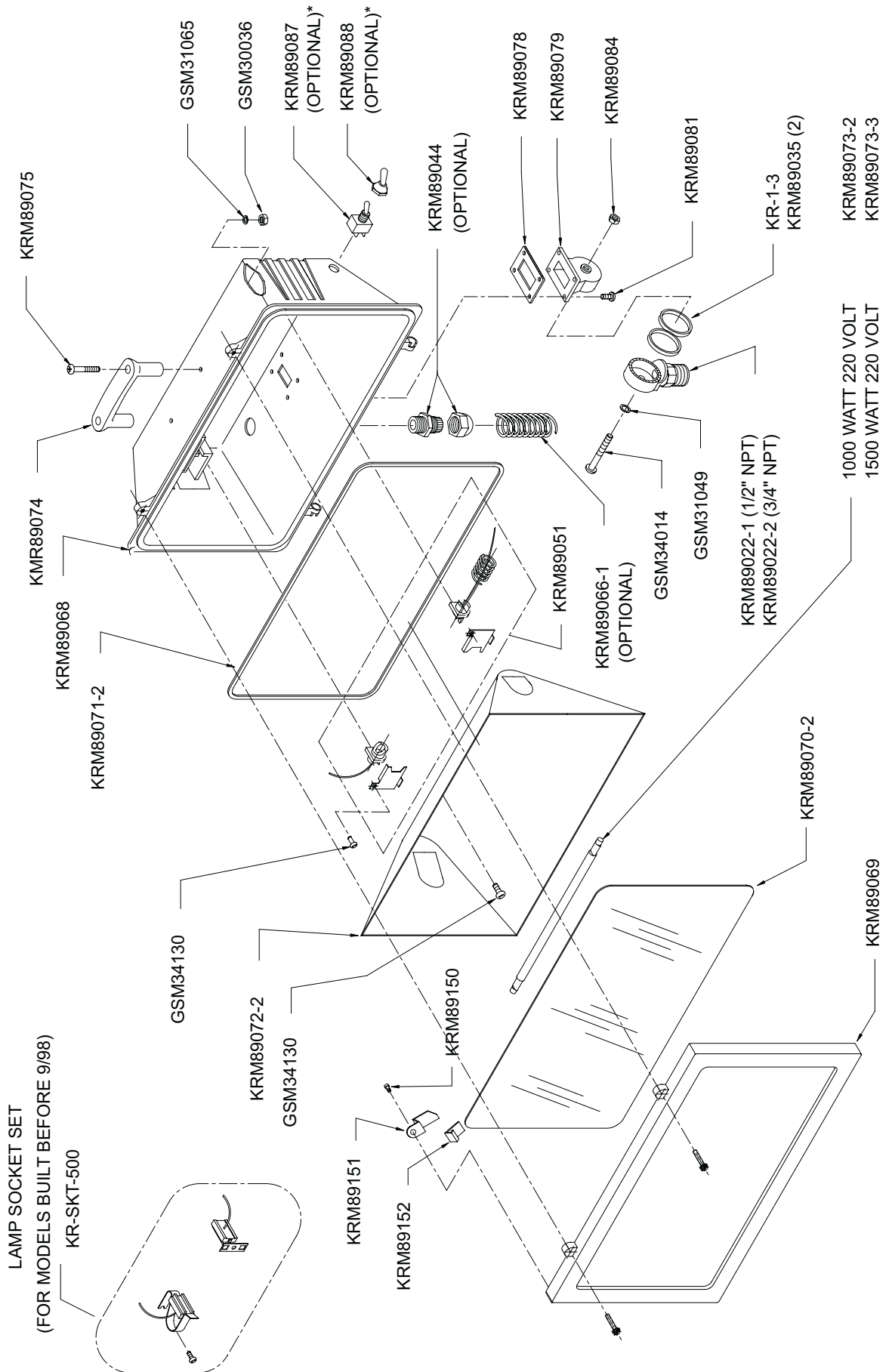
BULB SELECTION

300 WATT	120 VOLT	89073-6
500 WATT	120 VOLT	89073
500 WATT	220 VOLT	89073-1
750 WATT	120 VOLT	89073-7
750 WATT	220 VOLT	89073-5



KWIK-RAZE® 10 or 15

KR-1-2BC10 1000 WATT STONCO® LIGHT HEAD
 KR-1-2BC15 1500 WATT STONCO® LIGHT HEAD



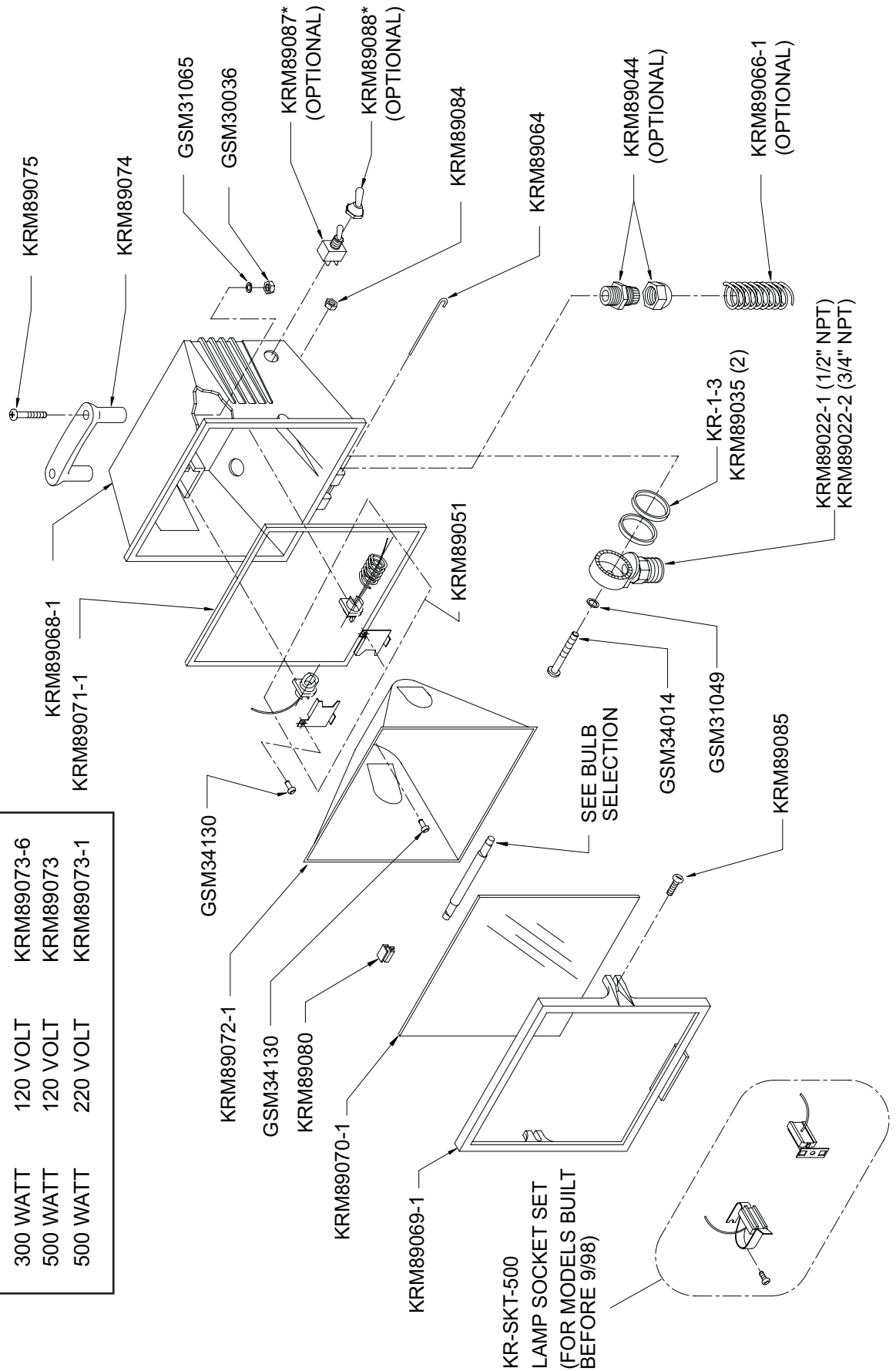
* Replacement Stonco Series (KR-1-2BC-15; KR-1-2AC) light heads are standard with concealed wire and do not include a switch.

KR-10-15-PBK-8-04



KWIK-RAZE® 05 SERIES 500 WATT STONCO LIGHT HEAD KR-1-2AC

BULB SELECTION	
300 WATT	KRM89073-6
500 WATT	KRM89073
500 WATT	KRM89073-1

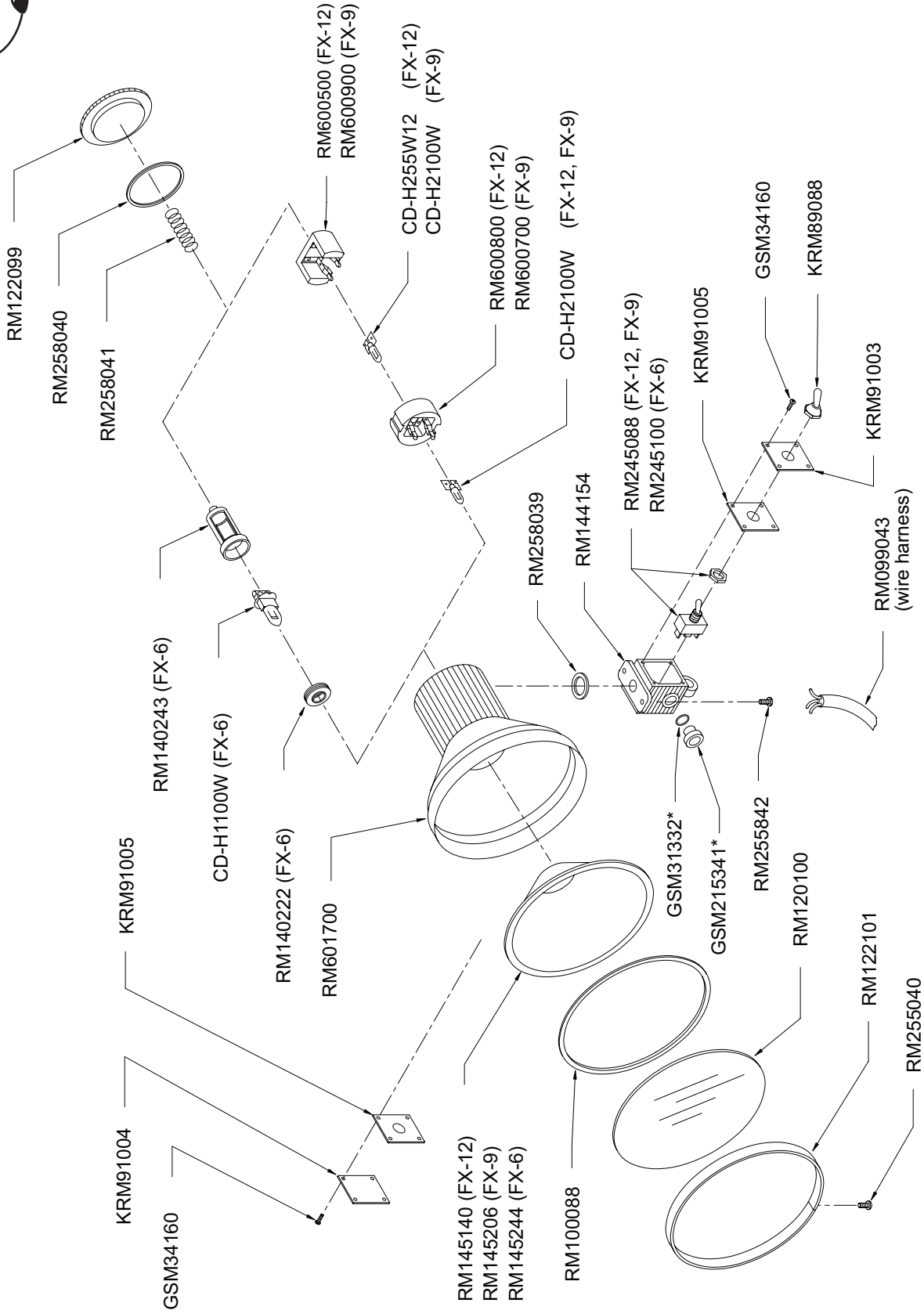


* Replacement Stonco Series (KR-1-2BC-15; KR-1-2AC) light heads are standard with concealed wire and do not include a switch.

KR-05-PBK-8-04

COLLINS DYNAMICS® DC LIGHT FIXTURES

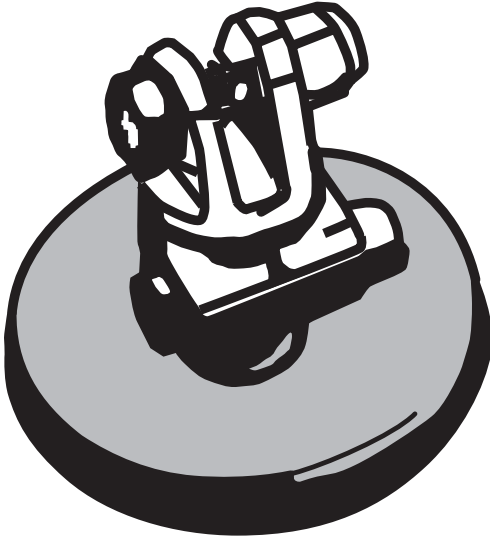
FX-6, FX-9, FX-12



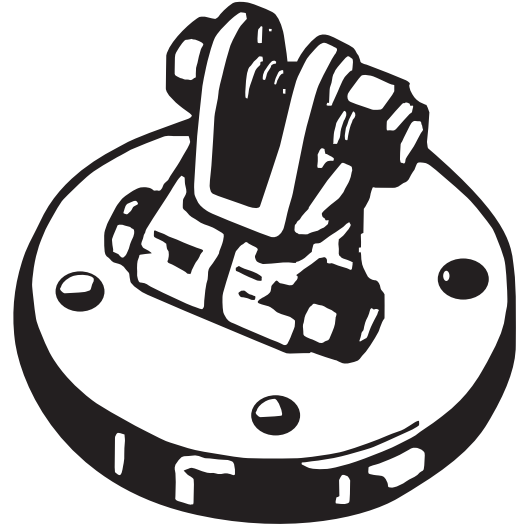
CD-FX-PBK-8-04

COLLINS DYNAMICS®

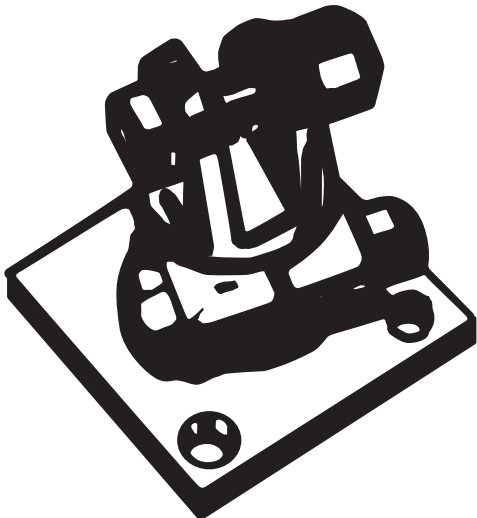
FX BASES



CD-BM-1
3" diameter 90-lb. pull magnetic
base for flush mounting



CD-BR-1
3" round base with 4 holes for
permanent mounting



CD-BS-1
2" square base with 4 holes for
permanent mounting

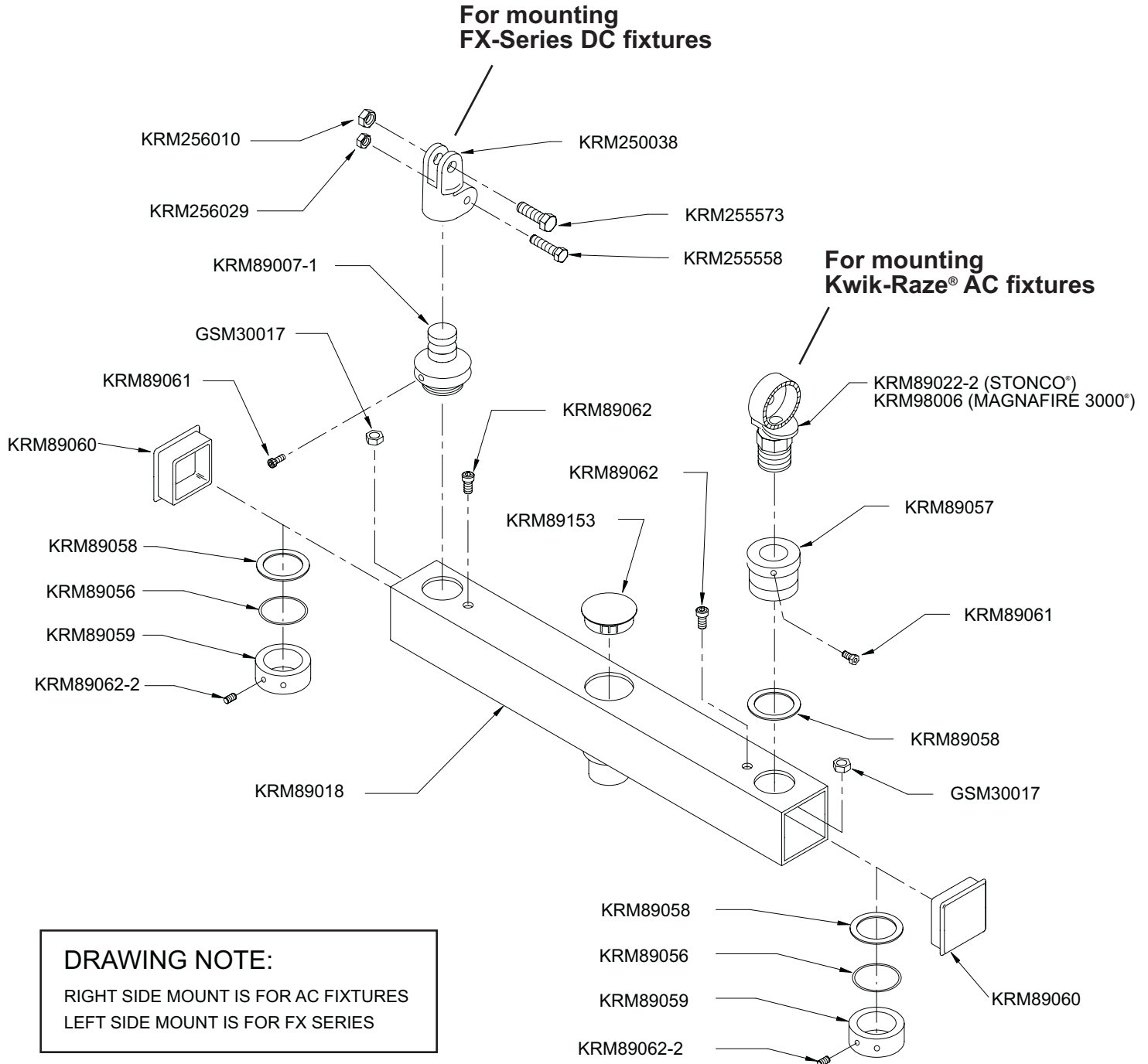


CD-BC-1
Bar clamp fits 3/4" to 1-1/2"
diameter poles

CROSSTREE ASSEMBLY

KR-9-0-FX FOR FX SERIES LIGHTS

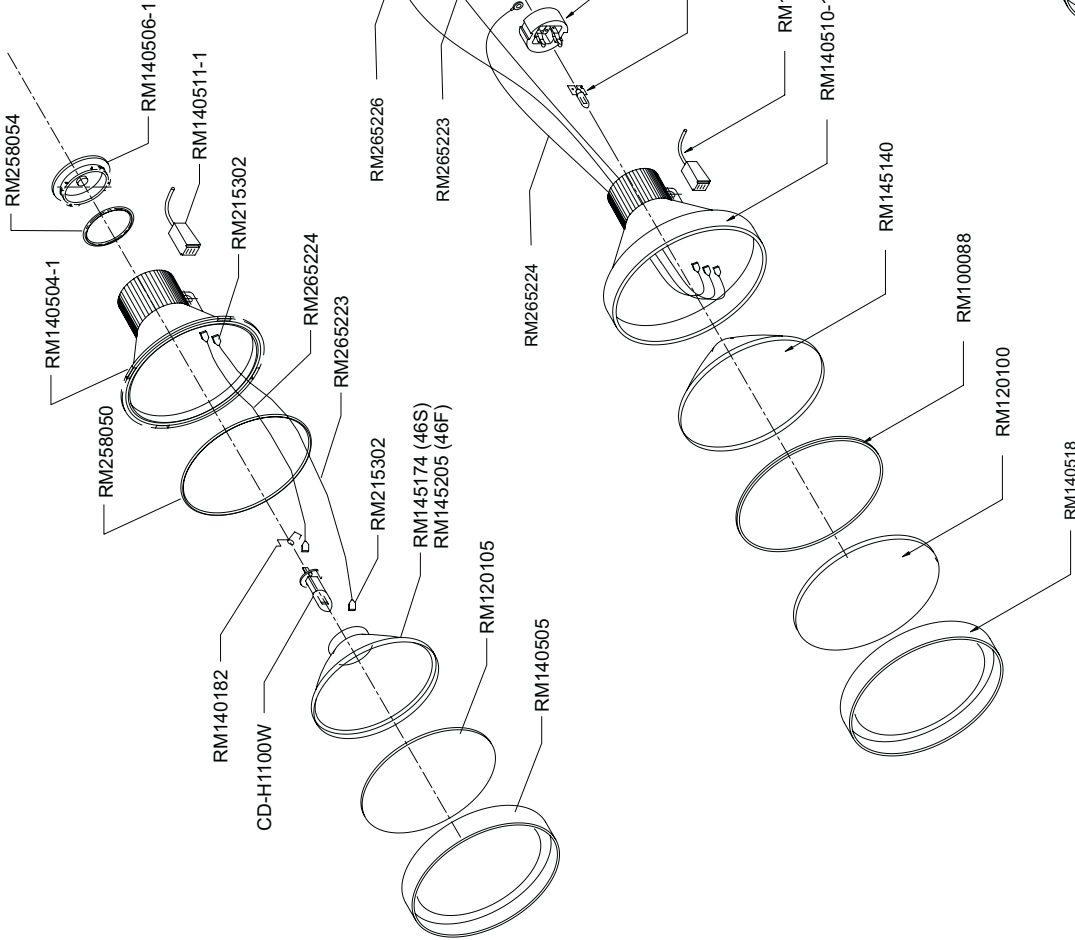
KR-9-0 FOR AC LIGHT FIXTURES



COLLINS DYNAMICS® 46 & 56 LIGHTHEADS

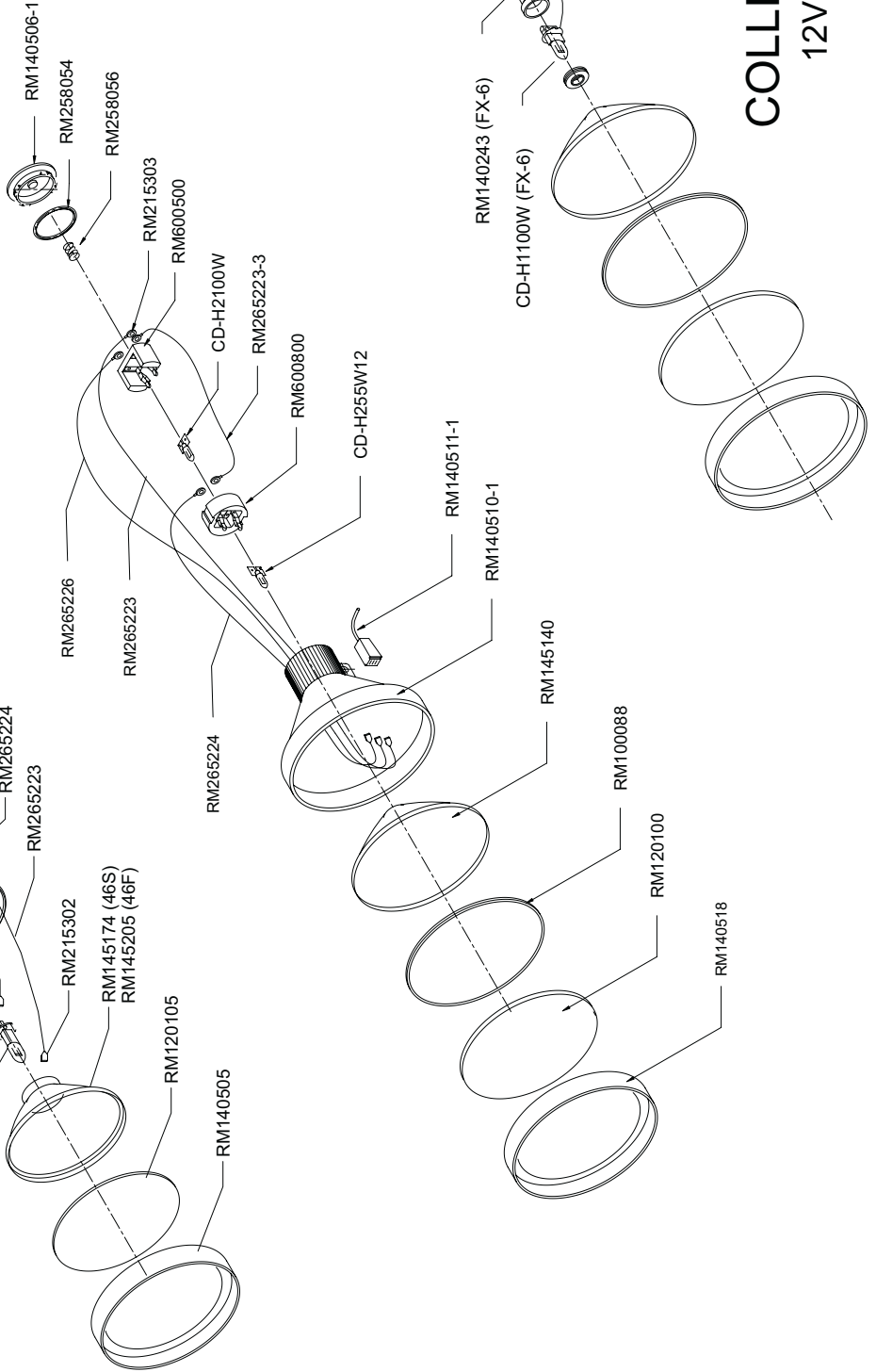
COLLINS DYNAMICS® 12VOLT SPOT OR FLOOD 46S/46F LIGHTHEAD

Spot KRM350 SPHD
Flood KRM350FLHD



COLLINS DYNAMICS® 12VOLT SPOT/FLOOD COMBO 56 LIGHTHEAD

(KR-750 Head)



COLLINS DYNAMICS® 12VOLT FX-6 FLOOD 56 LIGHTHEAD



COLLINS DYNAMICS® GENESIS MODULAR SYSTEM

CD-46/5B CD-56/5B

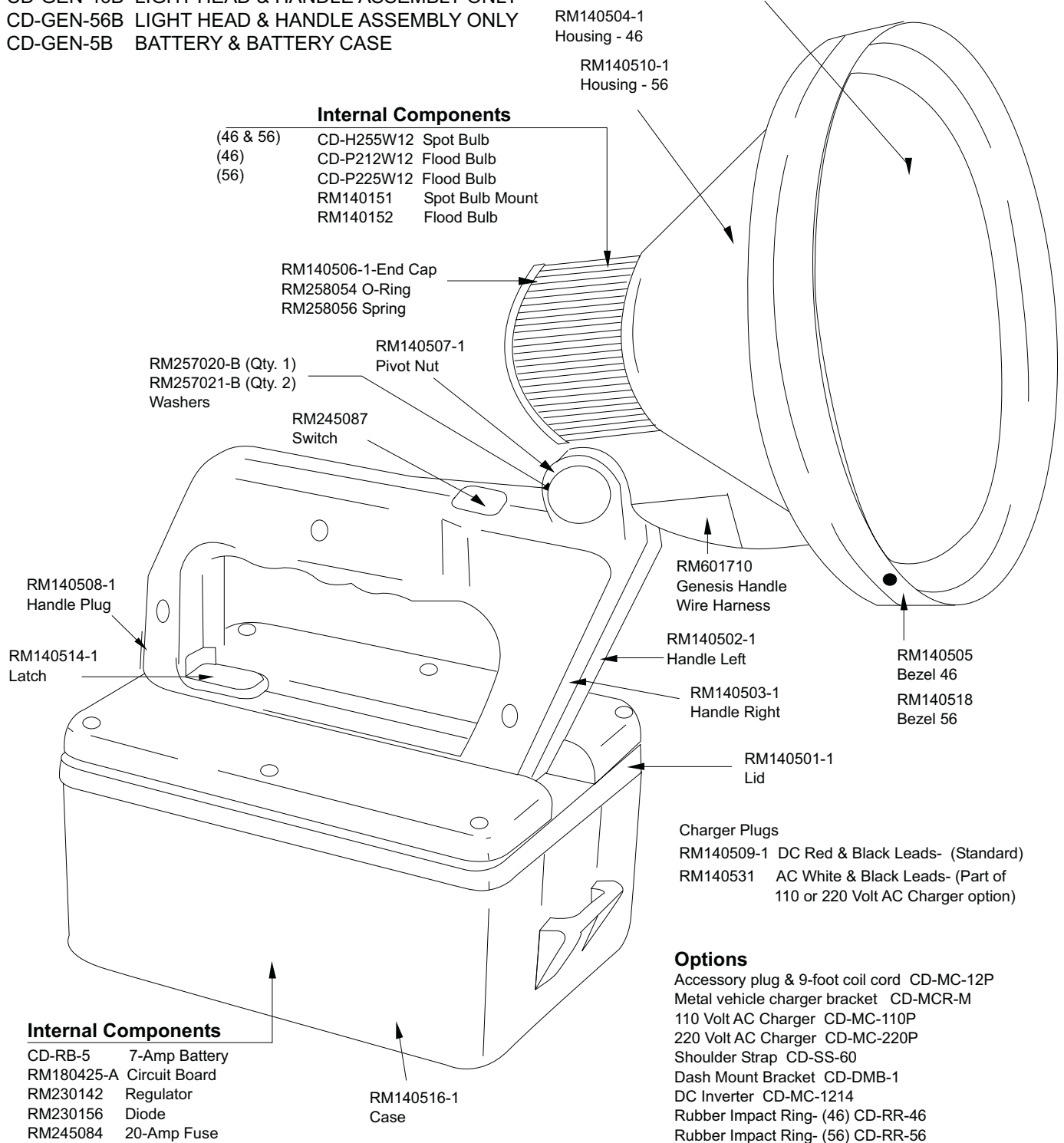


46
RM120105 6" Lens
RM258050 6" O-Ring #162
RM145164 6" Reflector

56
RM120100 7" Lens
RM100088 7" U-channel
RM145140 7" Reflector

NOTE:

CD-GEN-46B LIGHT HEAD & HANDLE ASSEMBLY ONLY
CD-GEN-56B LIGHT HEAD & HANDLE ASSEMBLY ONLY
CD-GEN-5B BATTERY & BATTERY CASE



COLLINS DYNAMICS®

PULSAR 500 & PULSAR 750

CD-PULS500

CD-PULS750



Internal Components

- (500) CD-H1100W Spot Bulb
- (750) CD-H2100W Spot Bulb
- (750) CD-H255W12 Flood Bulb
- (750) RM600800 Spot Bulb Mount
- (750) RM600500 Flood Bulb Mount
- (500) RM140182 Spring Clip

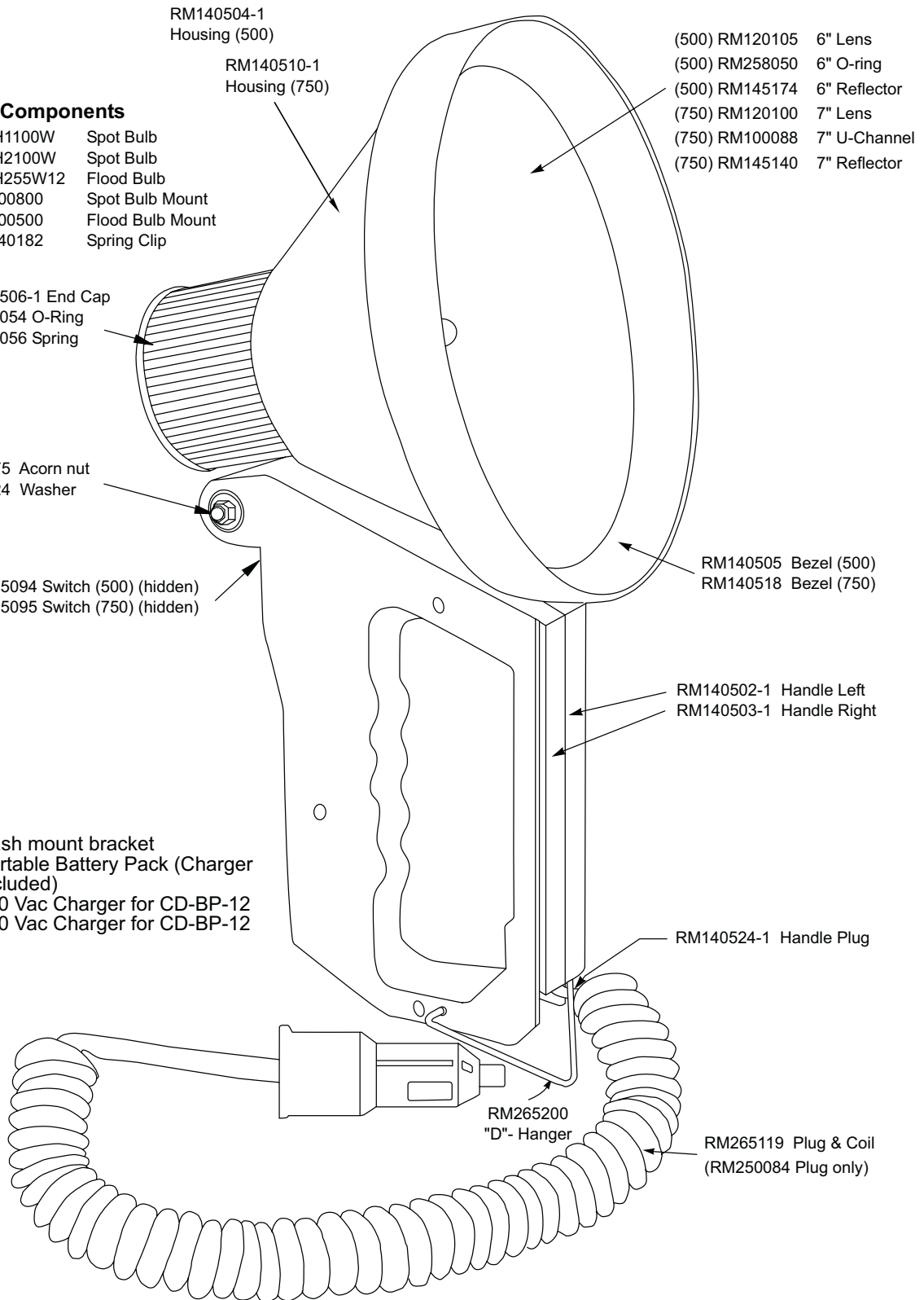
- RM140506-1 End Cap
- RM258054 O-Ring
- RM258056 Spring

- RM257575 Acorn nut
- RM257024 Washer

- RM245094 Switch (500) (hidden)
- RM245095 Switch (750) (hidden)

Options

- CD-DMB-1 Dash mount bracket
- CD-BP-12 Portable Battery Pack (Charger Included)
- CD-BP12012 120 Vac Charger for CD-BP-12
- CD-BP22012 220 Vac Charger for CD-BP-12



CD-PULS-PBK-8-04

**PARTS BREAKDOWN
COLLINS DYNAMICS® LIGHTS**



Part Number Qty. Description

Model CD-MAGNUM

Components

CD-H1100W	(1)	12 Volt 100 Watt H-1 Base Replacement Bulb
RM100099	(1)	U-Channel Gasket 8"
RM120175	(1)	Magnum Lens 8.5"
RM122099	(1)	Cap Black
RM122174	(1)	Retaining Ring Magnum
RM140218	(1)	Rubber Ring Magnum
RM140222	(1)	Upper Bulb Mount
RM140223	(1)	Lower Bulb Mount
RM145220	(1)	Magnum Reflector
RM215277	(1)	Strain Relief
RM245094	(1)	2 Position Momentary Rocker Switch
RM258040	(1)	O-Ring 2 1/4" ID
RM258041	(1)	End Spring Cap
RM265119	(1)	16/2 TPR Coil Cord W/#20 Plug

Accessories

CD-BP-12	Portable Battery Pack
CD-BP12012	110 VAC Charger For CD-BP-12 Battery Pack
CD-BP22012	220 VAC Charger For CD-BP-12 Battery Pack
CD-DMB-CL	Dash Mount Bracket

Model CD-CL-12

Components

CD-H2100W	(1)	12 Volt 100 Watt H-2 Base Replacement Bulb
CD-H255W12	(1)	12 Volt 55 Watt H-2 Base Replacement Bulb
RM100088	(1)	U-Channel Gasket 7"
RM120100	(1)	7" Glass Lens
RM122099	(1)	Cap Black
RM122101	(1)	Retaining Ring 7" ID
RM145140	(1)	7" Reflector Metalized
RM215277	(1)	Strain Relief
RM245087	(1)	3 Position Rocker Switch
RM258040	(1)	O-Ring 2 1/4" ID
RM258041	(1)	End Spring Cap
RM265119	(1)	16/2 TPR Coil Cord W/#20 Plug
RM600500	(1)	Lower Bulb Mount Assembly
RM600800	(1)	Upper Bulb Mount Assembly

Accessories

CD-BP-12	Portable Battery Pack
CD-BP12012	110 VAC Charger For CD-BP-12 Battery Pack
CD-BP22012	220 VAC Charger For CD-BP-12 Battery Pack
CD-DMB-CL	Dash Mount Bracket

Model CD-12B



Components

CD-H2100W	(1)	12 Volt 100 Watt H-2 Base Replacement Bulb
CD-H255W12	(1)	12 Volt 55 Watt H-2 Base Replacement Bulb
CD-RR-1	(1)	Rubber Ring
CD-SS-60	(1)	Nylon Shoulder Straps With Clips
KRM89088	(1)	Rubber Switch Boot
RM100088	(1)	U-Channel Gasket 7"
RM102090	(1)	PC Board Protector Black Bracket
RM120097	(1)	C Clip
RM120100	(1)	7" Glass Lens
RM120102	(1)	Switchplate
RM120107	(1)	Switchplate Gasket
RM120115	(1)	Pivot Boot
RM122099	(1)	Cap Black
RM122101	(1)	Retaining Ring 7" ID
RM140156	(1)	H-Case Gasket
RM143149-B	(1)	Case Black
RM143150-B	(1)	Lid Black
RM145140	(1)	7" Reflector Metalized
RM180425-A	(1)	PC Board Assembled
RM215261	(1)	Bulk Head Amp Connector
RM215262	(1)	Connector Male Amp
RM215265	(1)	Cap & Chain
RM215266	(1)	Cable Clamp Connector Charger
RM245084	(1)	Fuse 20 Amp Slo Blo
RM245088	(1)	3 Position Toggle Switch
RM250057	(2)	Footman Loop Strap Hanger
RM250115	(1)	Inline Fuse Holders
RM253053	(4)	Latch Black
RM253054	(4)	Strike Black
RM258036	(1)	Hole Plug
RM258039	(1)	O-Ring 3/4" ID Silicone
RM258040	(1)	O-Ring 2 1/4" ID
RM258041	(1)	End Spring Cap
RM258042	(4)	Standoff
RM258045	(1)	Foot Rubber Strip
RM290009	(1)	Nicad Battery, 14.4 Volts
RM290028	(1)	110 Vac Charger
RM600500	(1)	Lower Bulb Mount Assembly
RM600800	(1)	Upper Bulb Mount Assembly

Accessories

CD-14.2		12 Volt NiCad Battery
CD-NC12012		110 VAC Charger For CD-12B
CD-NC22012		220 VAC Charger For CD-12B

Model CD-KN Knight Star Series

Components

CD-GEN-46B	(1)	Genesis 46 Black Replacement 6" Lighthouse
CD-GEN-56B	(1)	Genesis 56 Black Replacement 7" Lighthouse

Models CD-RH-HID35W & CD-RH-HAL100W

Accessories

CD-RH-DMB-1		Dash Mount Bracket for CD-RH Handheld
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Troubleshooting / Service

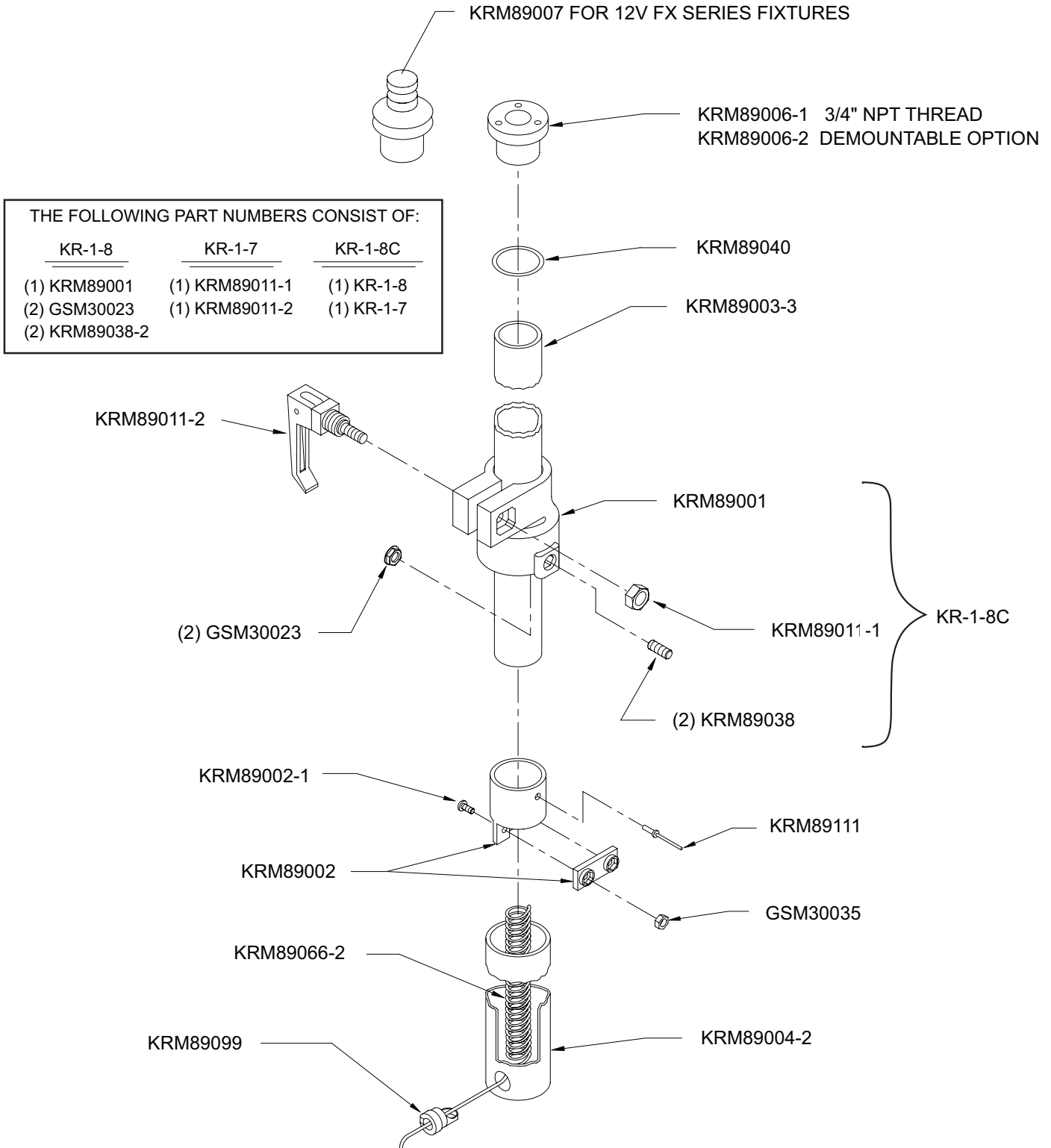
There are no user serviceable parts in the Models CD-RH-HID35W or CD-RH-HAL100W. It is designed for many years of trouble free operation.

If the MODEL CD-RH-HID35W or CD-RH-HAL100W ever fails to light, please call Havis-Shields Equipment Corporation Customer Service toll free at 1-800-524-9900.

CD-PBK-8-04

KR-100, 200, 300, 800 SERIES TOP RAISE POLE

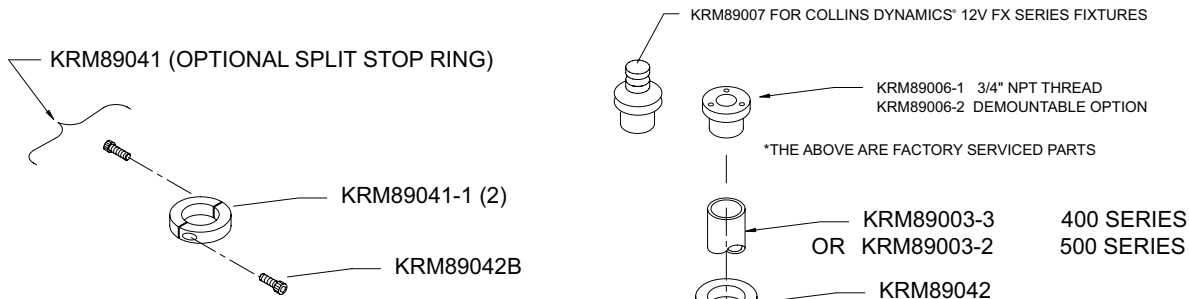
FOR INDICATOR SWITCH OPTION SEE KR-I



KR-TOP-POLE-PBK-8-04

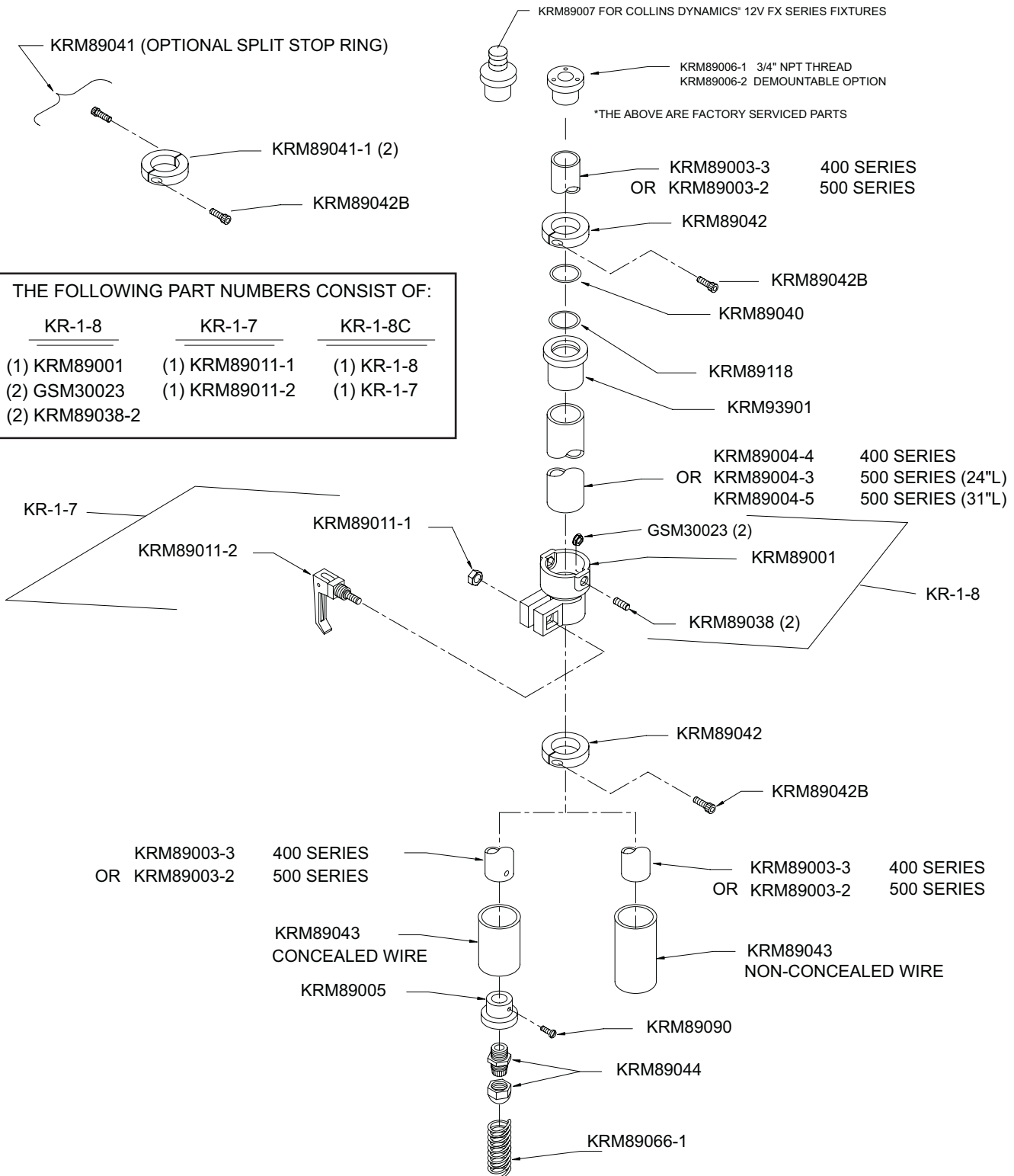
KR-400 AND KR-500 SERIES BOTTOM RAISE POLE

FOR INDICATOR SWITCH OPTION SEE KR-IB



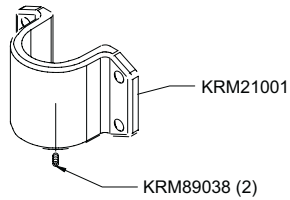
THE FOLLOWING PART NUMBERS CONSIST OF:

KR-1-8	KR-1-7	KR-1-8C
(1) KRM89001	(1) KRM89011-1	(1) KR-1-8
(2) GSM30023	(1) KRM89011-2	(1) KR-1-7
(2) KRM89038-2		

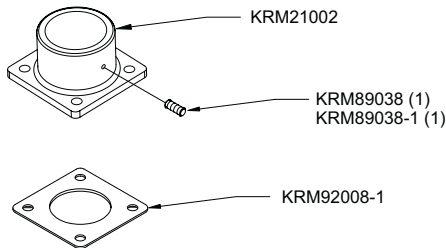


CAST MOUNTING BRACKETS

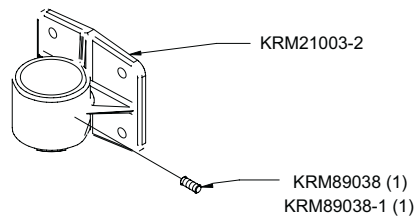
KR-100-500, 600, 1100, 1200 SERIES



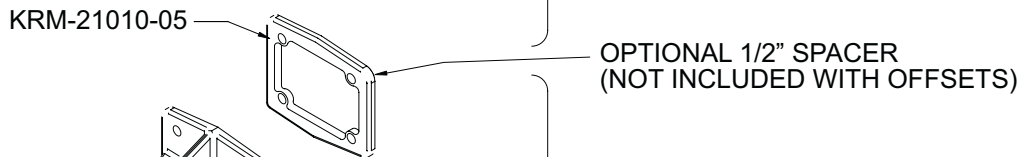
KR-1-18 FLUSH MOUNT



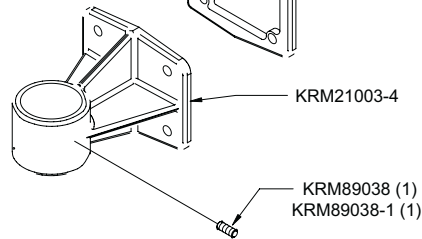
KR-3-18 THRU BODY MOUNT



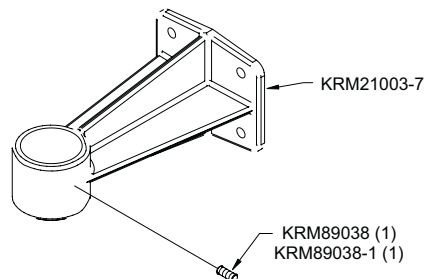
KR-2-OMB 2" OFFSET



OPTIONAL 1/2" SPACER
(NOT INCLUDED WITH OFFSETS)



KR-4-OMB 4" OFFSET



KR-7-OMB 7" OFFSET

KR-600 SERIES

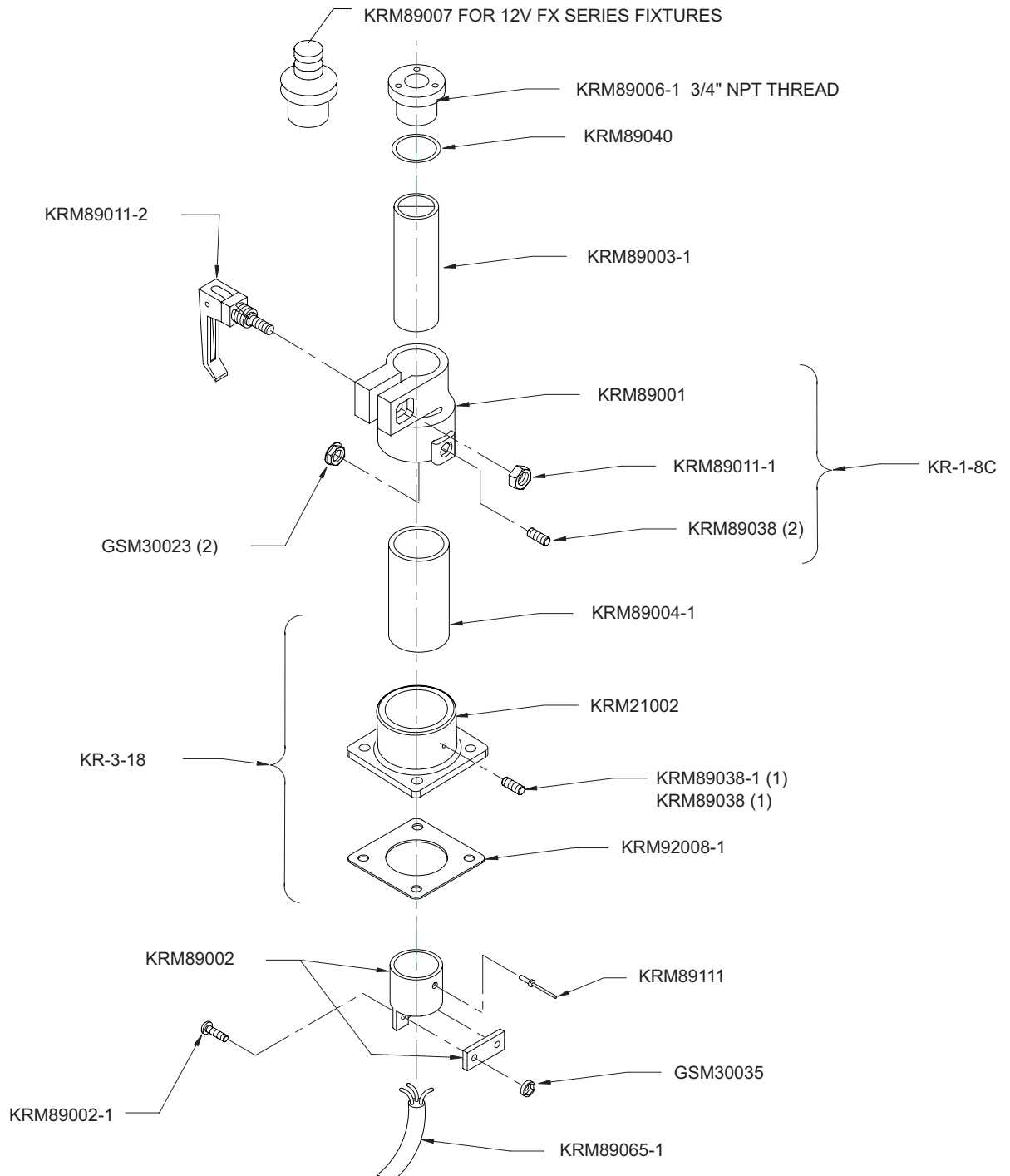
NON-TELESCOPING PERMANENT MOUNT



THE FOLLOWING PART NUMBERS CONSIST OF:

<u>KR-1-8</u>	<u>KR-1-7</u>	<u>KR-1-8C</u>
(1) KRM89001	(1) KRM89011-1	(1) KR-1-8
(2) GSM30023	(1) KRM89011-2	(1) KR-1-7
(2) KRM89038-2		

Swivel not shown for AC fixtures

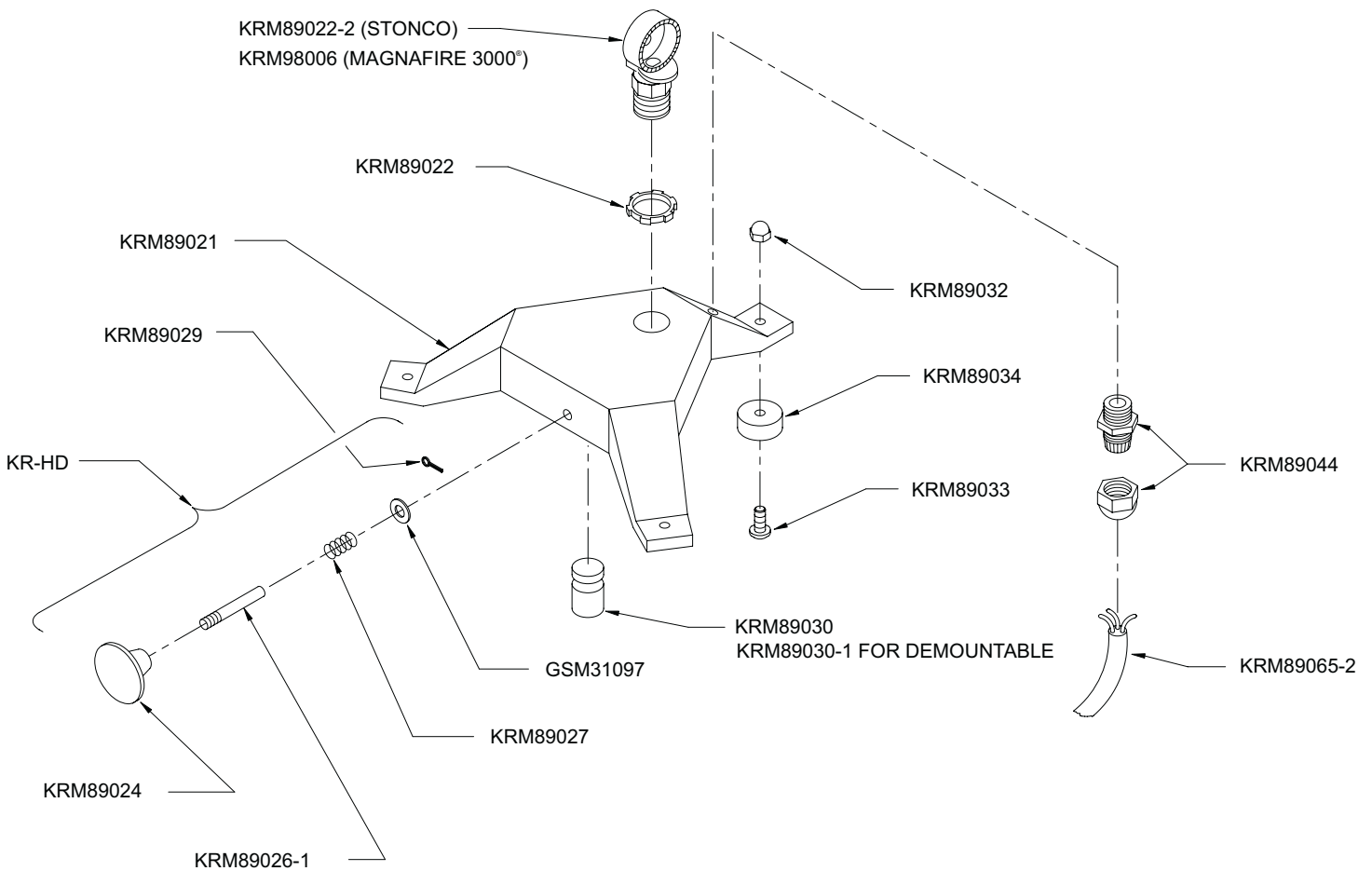


KR-600-PBK-8-04

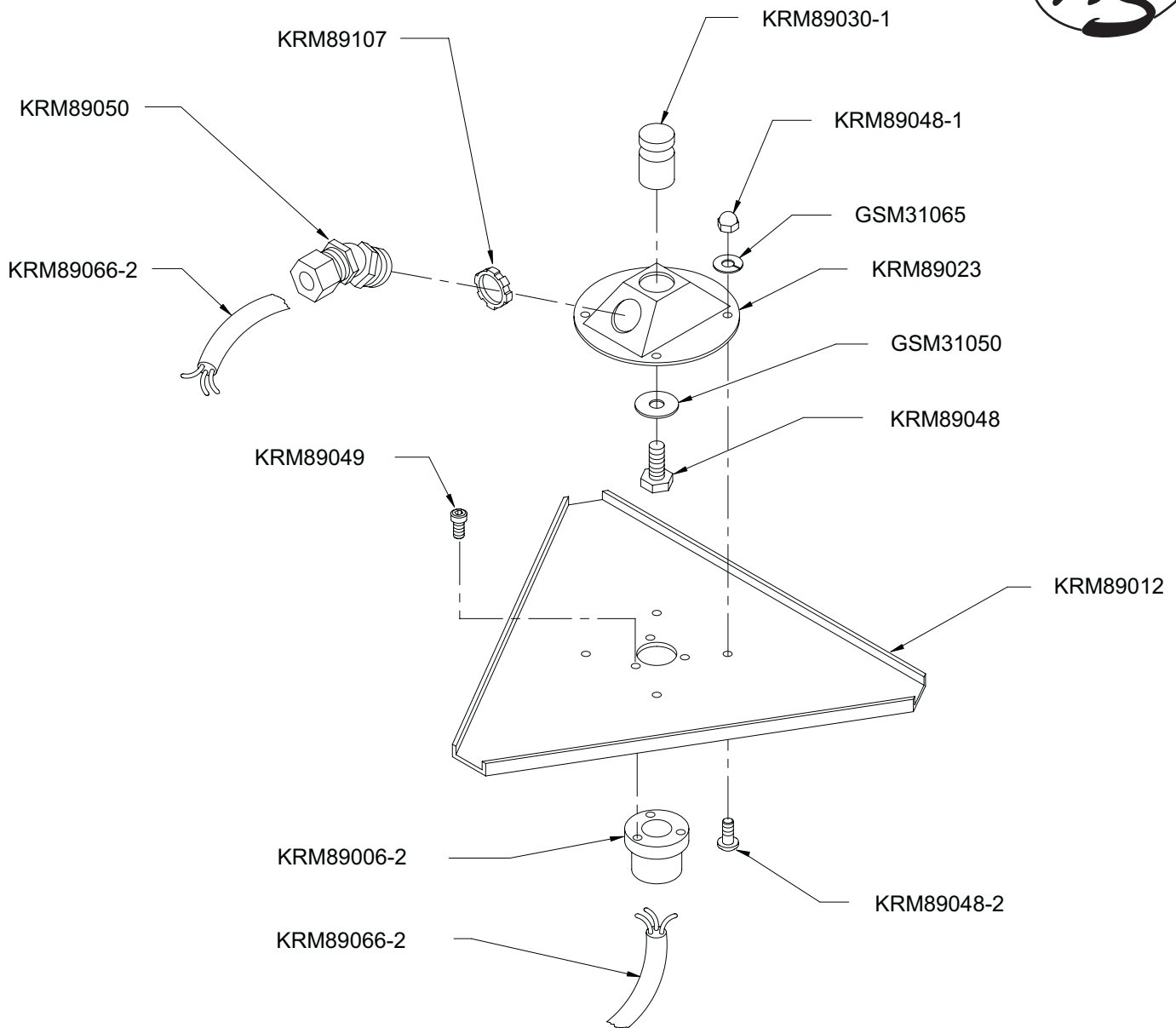
PORTABLE BASE KR-700 SERIES

OPTIONAL: KWIK-RELEASE HOLD DOWN (KR-HD)

NOTE: PLUGS AND CONNECTORS ARE OPTIONAL



KR-DM PORTABLE/DEMOUNTABLE OPTION



KWIK-RAZE® portable/ demountable assembly instructions

Step 1. Mount base plate on top of the pole with the 3 #10 x 3/8" socket head screws (KRM89049) provided. The cord goes through the center of the plate.

Step 2. Remove cap from the end of the 45° strain relief (KRM89050). Leave end off until step 4.

Step 3. Install hardware as shown in diagram and tighten evenly.

Step 4. Reinstall the end cap on the strain relief and tighten to prevent the cable from slipping, or moisture from entering pole.

Step 5. Your portable light is now ready to be installed on the pole. Pull the kwik-release knob on the portable unit, and drop the portable light head over the pin. Note that the 45° strain relief rests inside the rear leg webbing. To remove the light head, pull the kwik-release knob, and remove light.

Step 6. Use stainless steel bolts or screws to mount the pole brackets on apparatus to prevent corrosion. Wire the light to the junction or circuit box. We recommend each light to be wired to a separate circuit breaker.

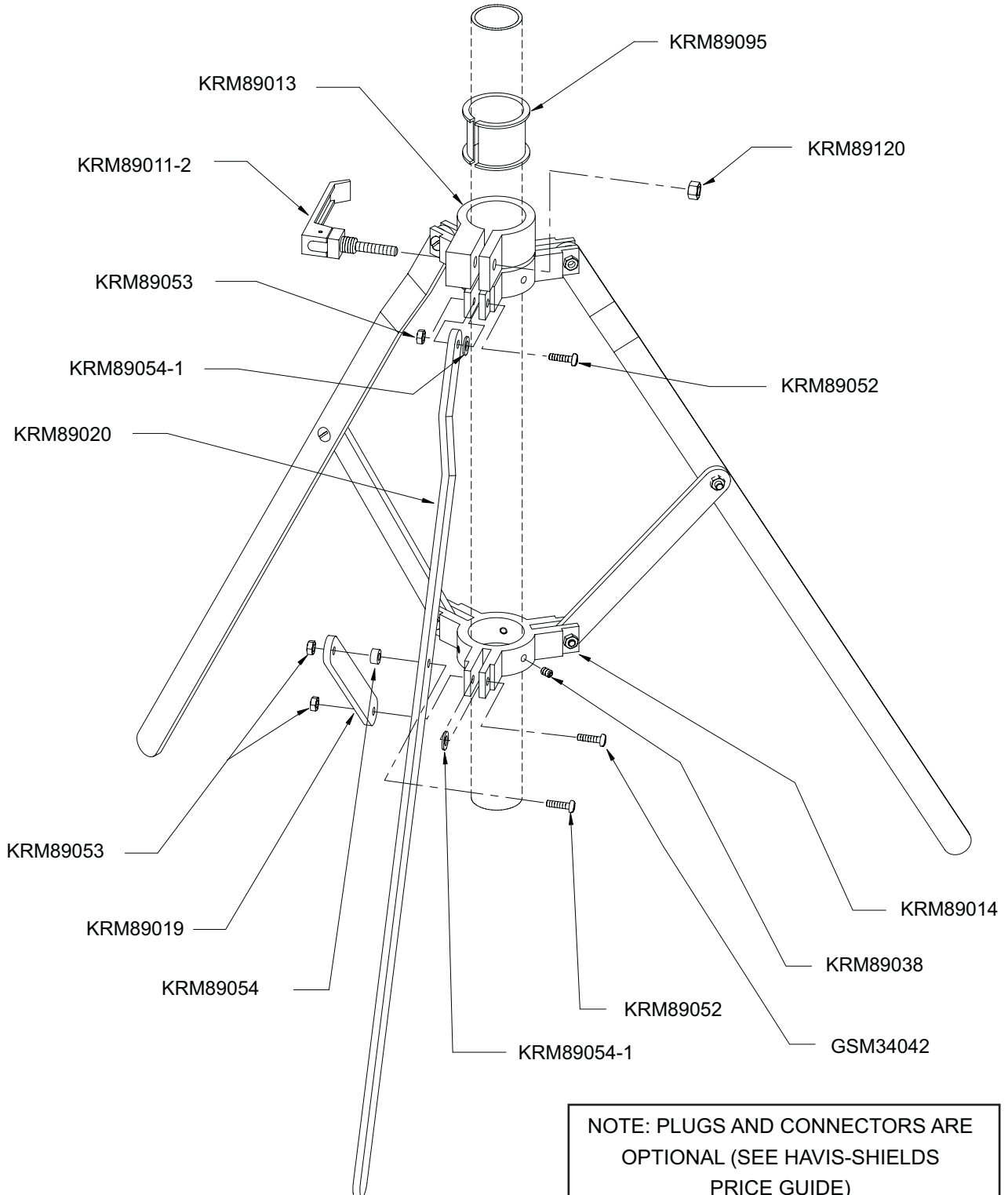
To ensure quality performance, poles are pre-assembled at the factory, then disassembled and packed for shipment.

For assistance, please call 1-800-524-9900

KR-DM-PBK-8-04

KR-800 SERIES

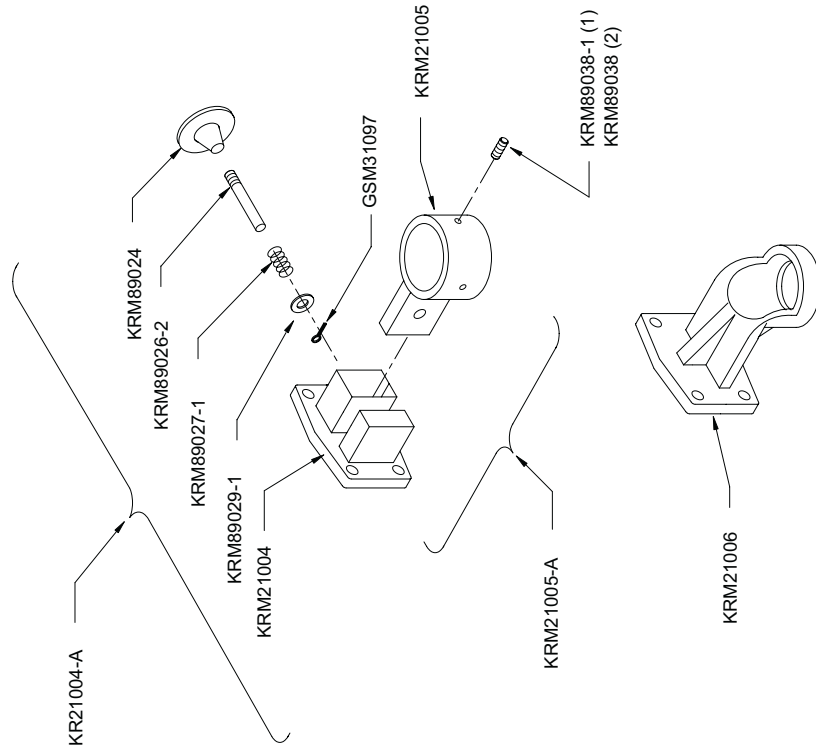
KR-8-1 TRIPOD ASSEMBLY ONLY



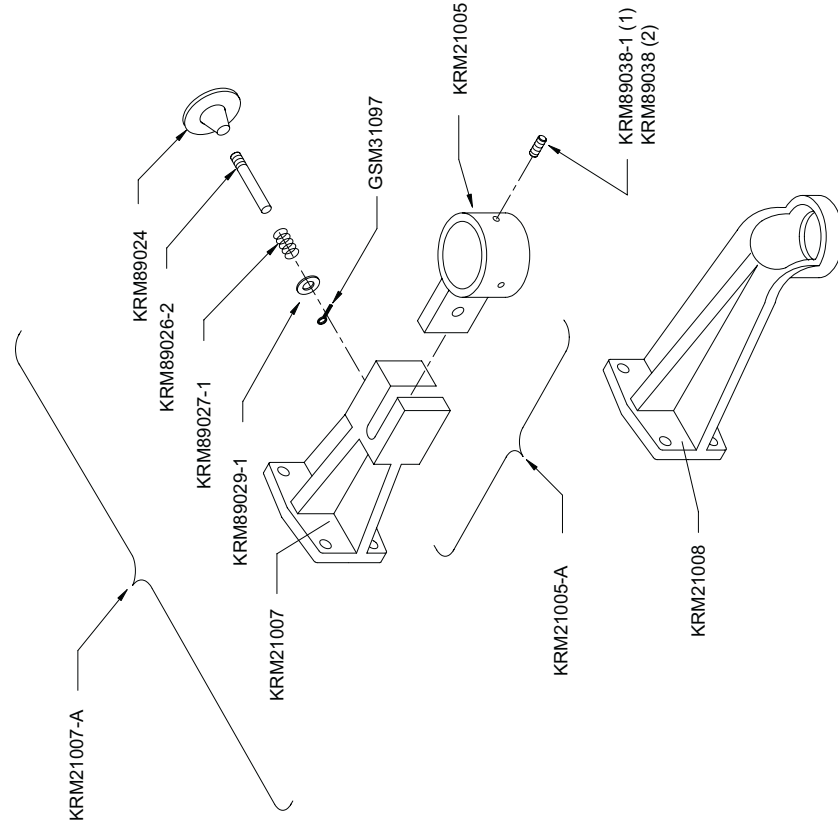


OPTIONAL TRUCK MOUNT BRACKETS FOR KR-800 SERIES

KR-TM

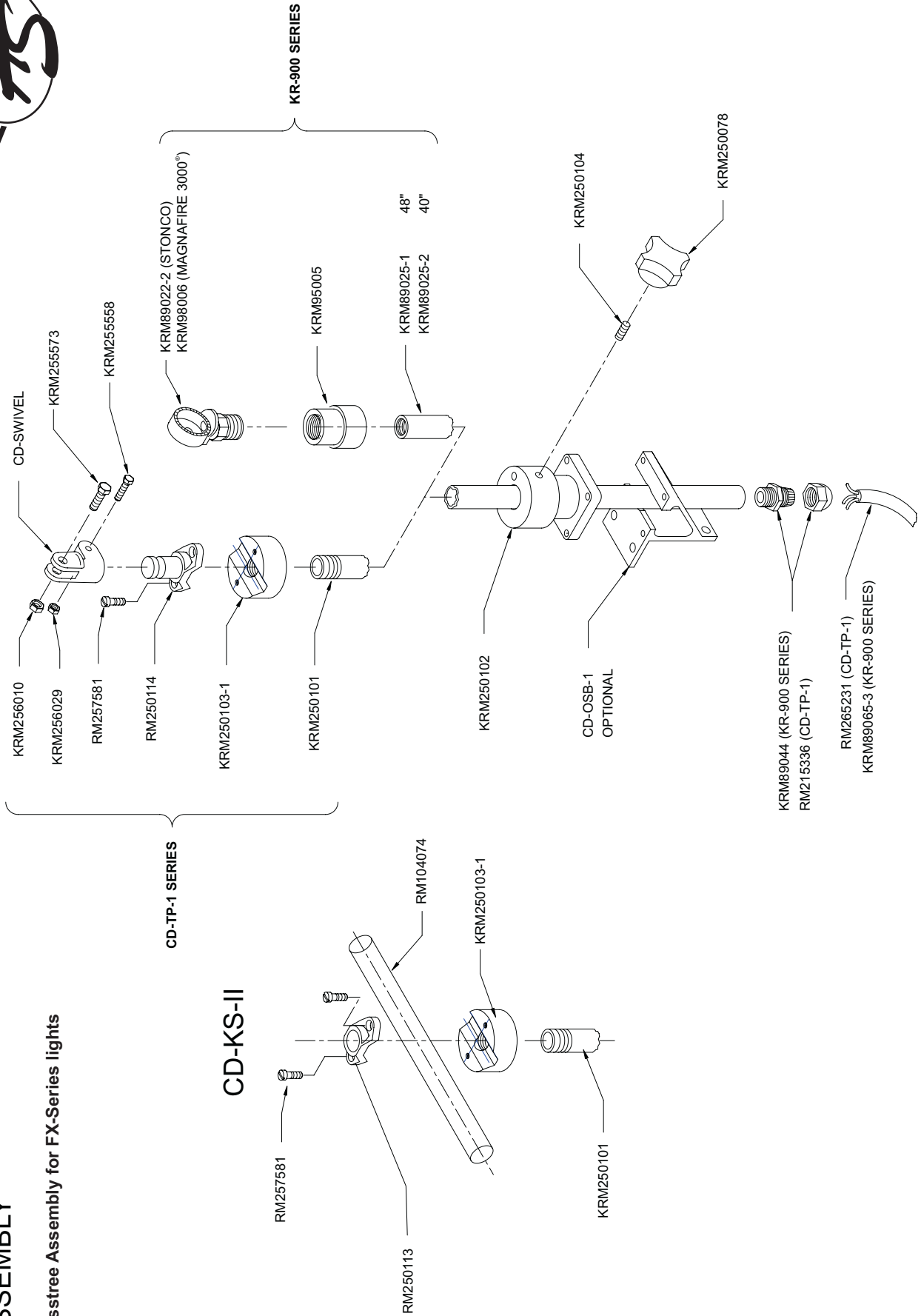


KR-TM-7



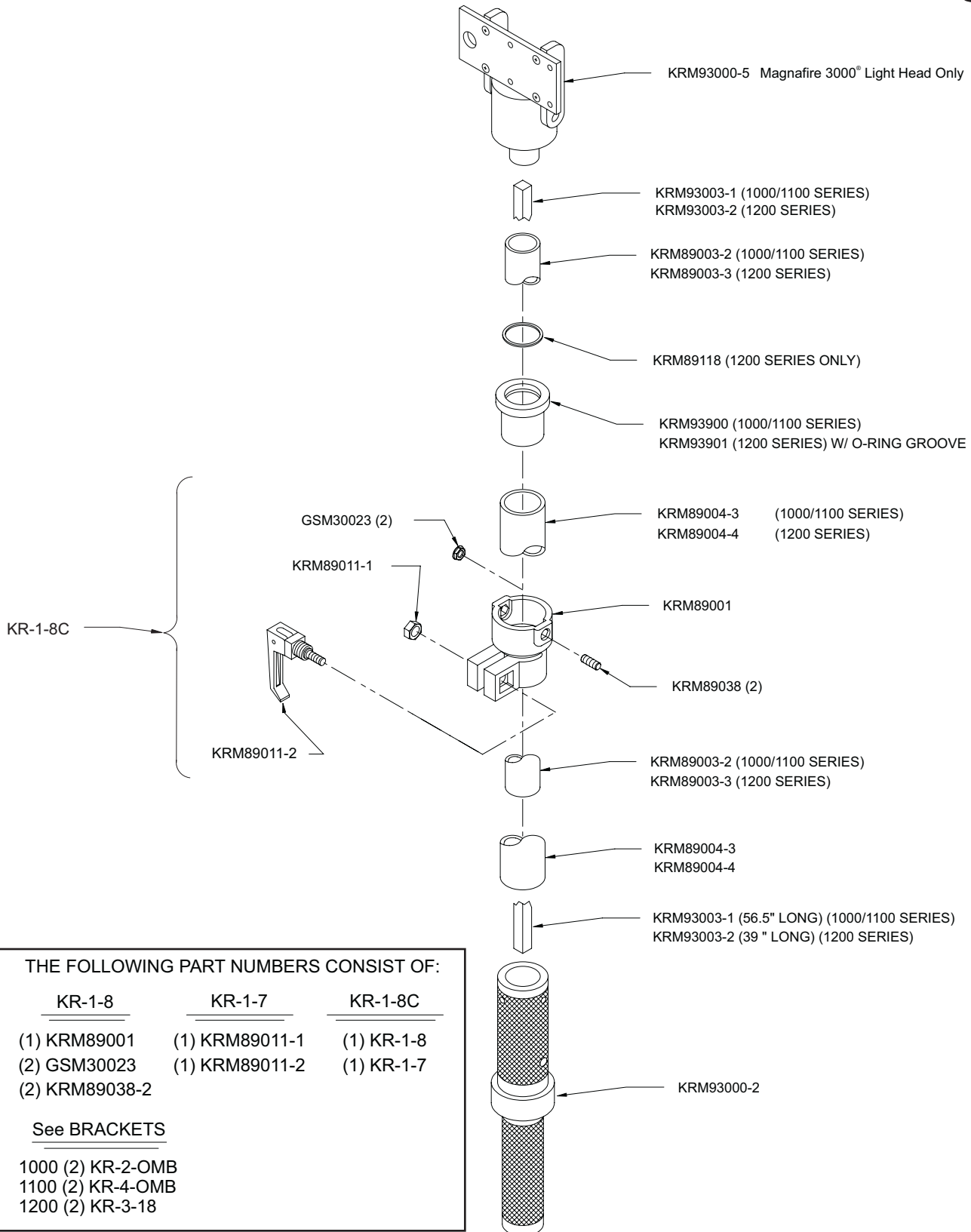
CD-TP-1 & KR-900 SERIES THRU MOUNT TELESCOPING POLE ASSEMBLY

Crosstree Assembly for FX-Series lights

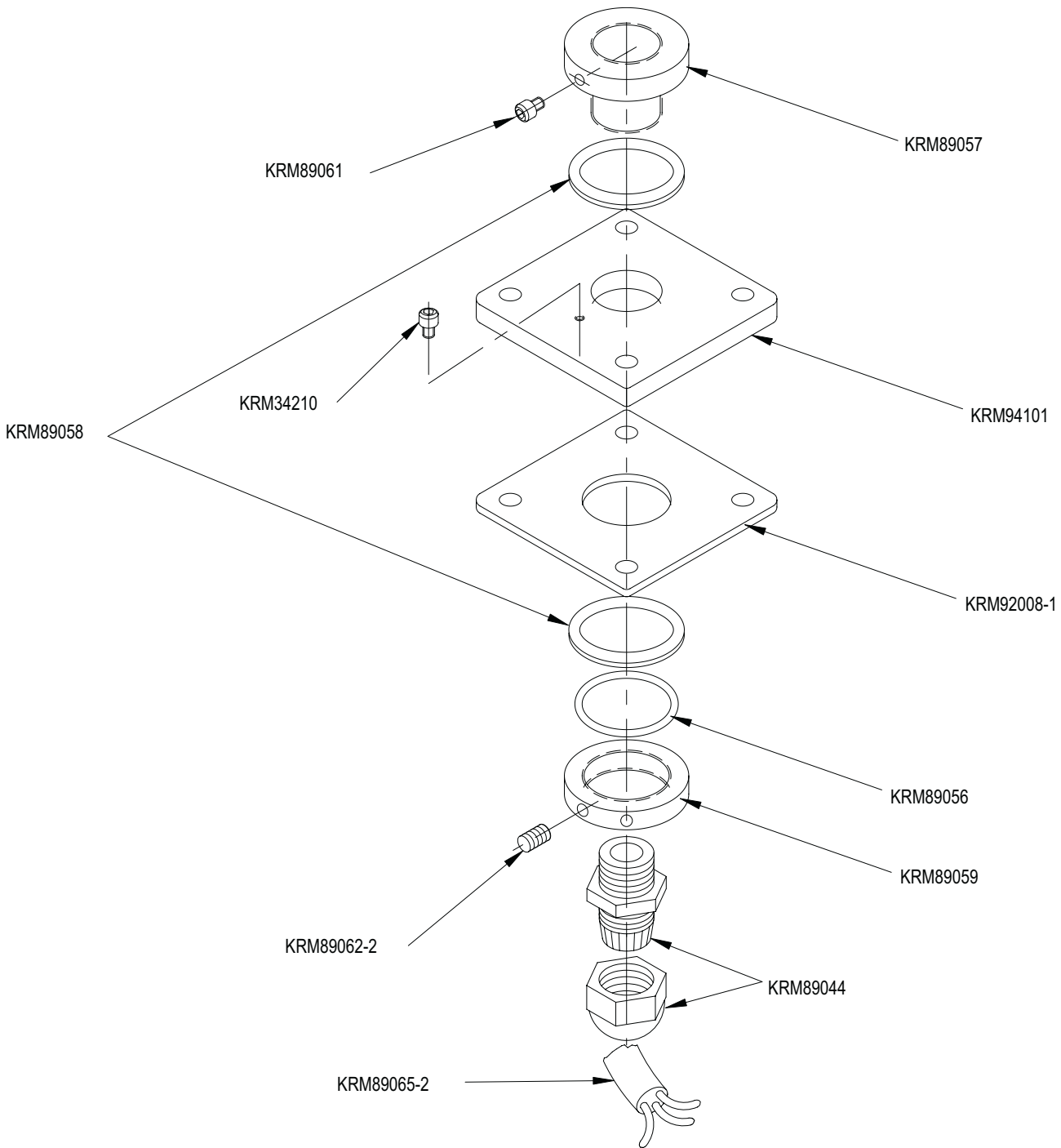


FOR INDICATOR SWITCH OPTION SEE KR-I

KR-1100 & 1200 SERIES REMOTE BOTTOM RAISE POLE

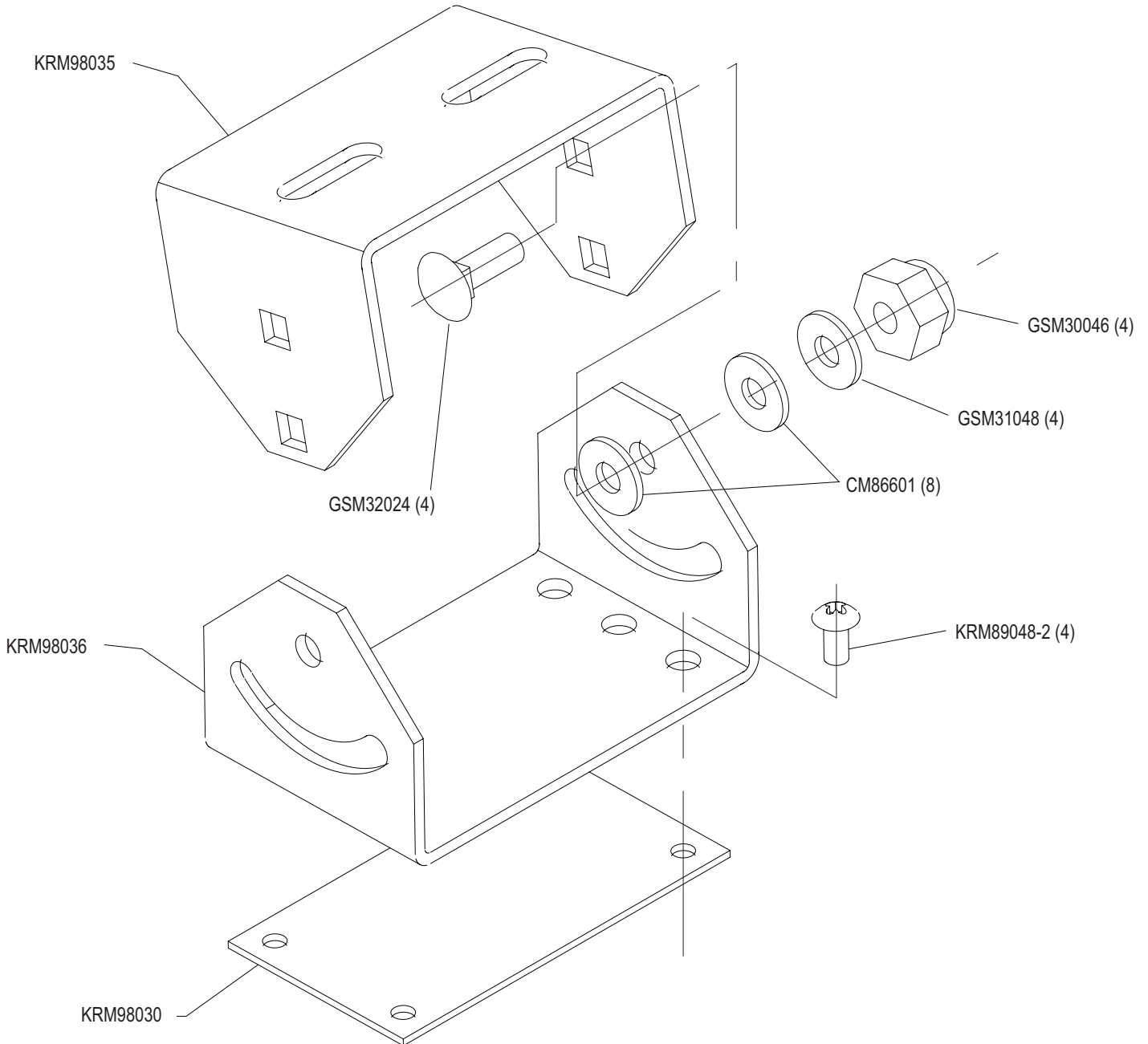


KR-1300 SERIES LOW PROFILE NON-TELESCOPING PERMANENT MOUNT



KR-1300-PBK-8-04

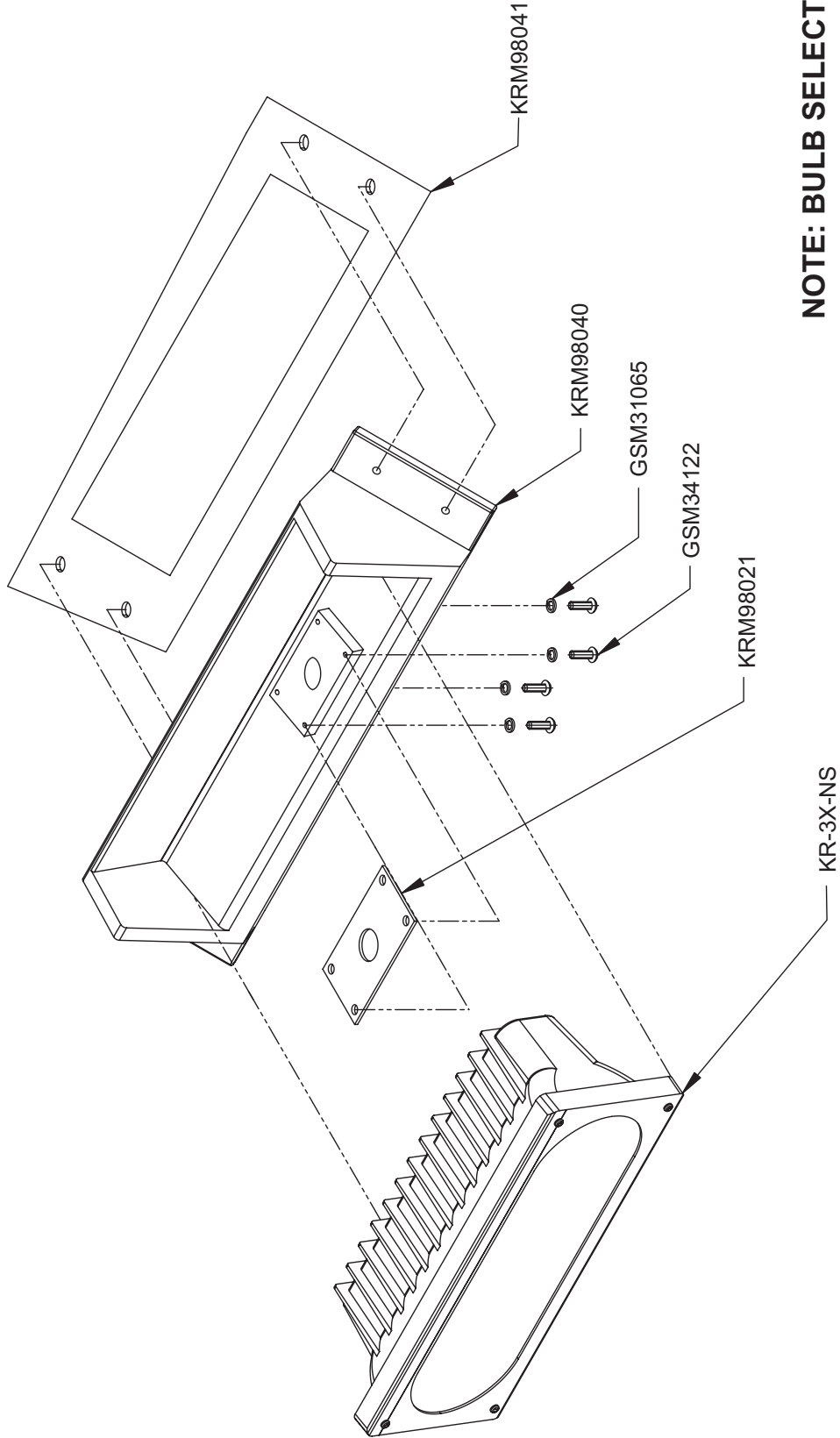
KR-1400 SERIES PLATFORM MOUNT



KR-1400-PBK-8-04



**KR-15XX E-ONE SERIES
MAGNAFIRE 3000® E-ONE CAB
BROW MOUNT**

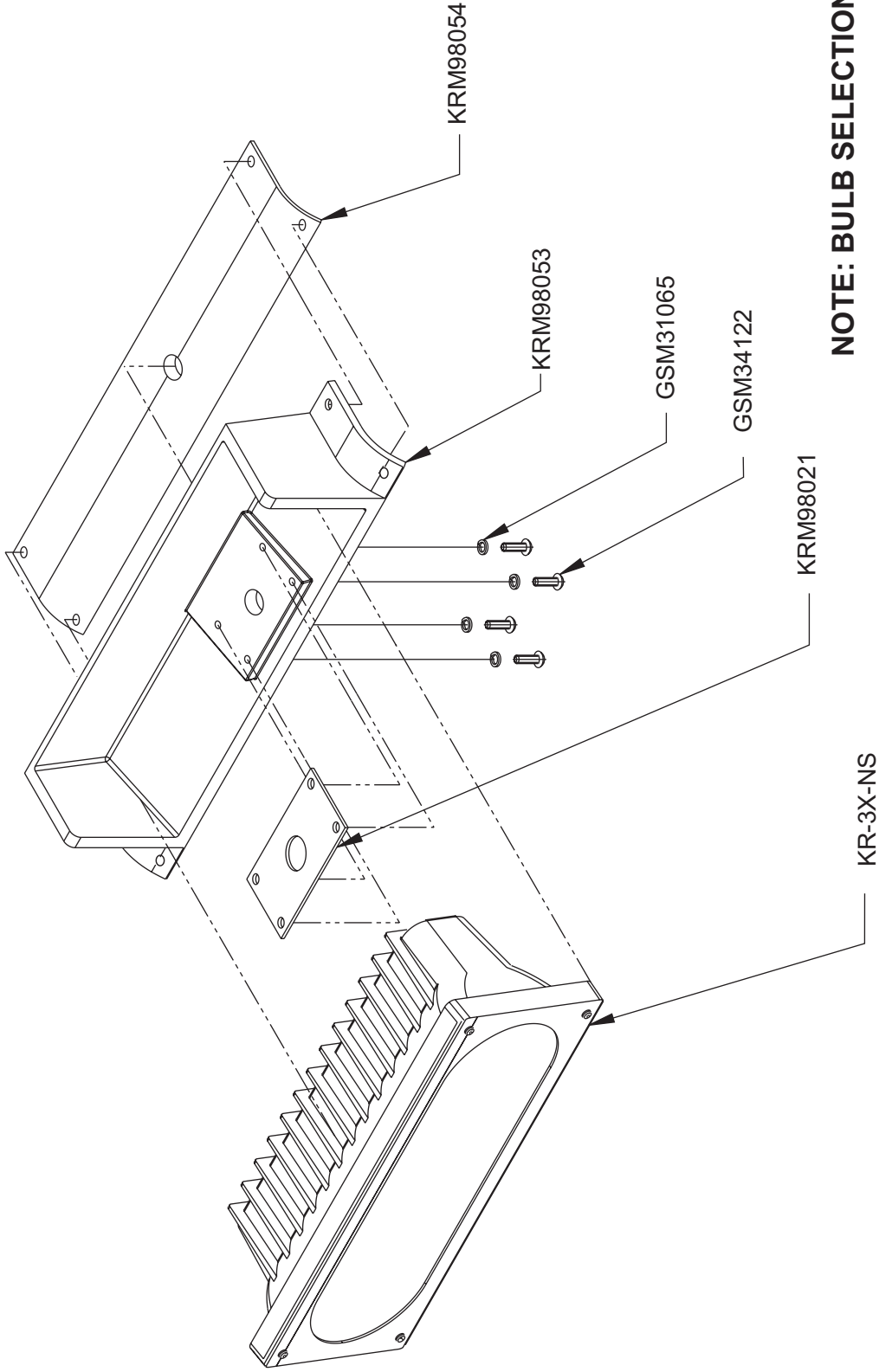


NOTE: BULB SELECTION

"XX" =	31	70 Watt	12 Volt
	33	350 Watt	120 Volt
	36	750 Watt	120 Volt
	37	750 Watt	220 Volt
	39	900 Watt	240 Volt



**KR-15XX-SP SERIES
MAGNAFIRE 3000® SPARTAN ADVANTAGE CAB
BROW MOUNT**

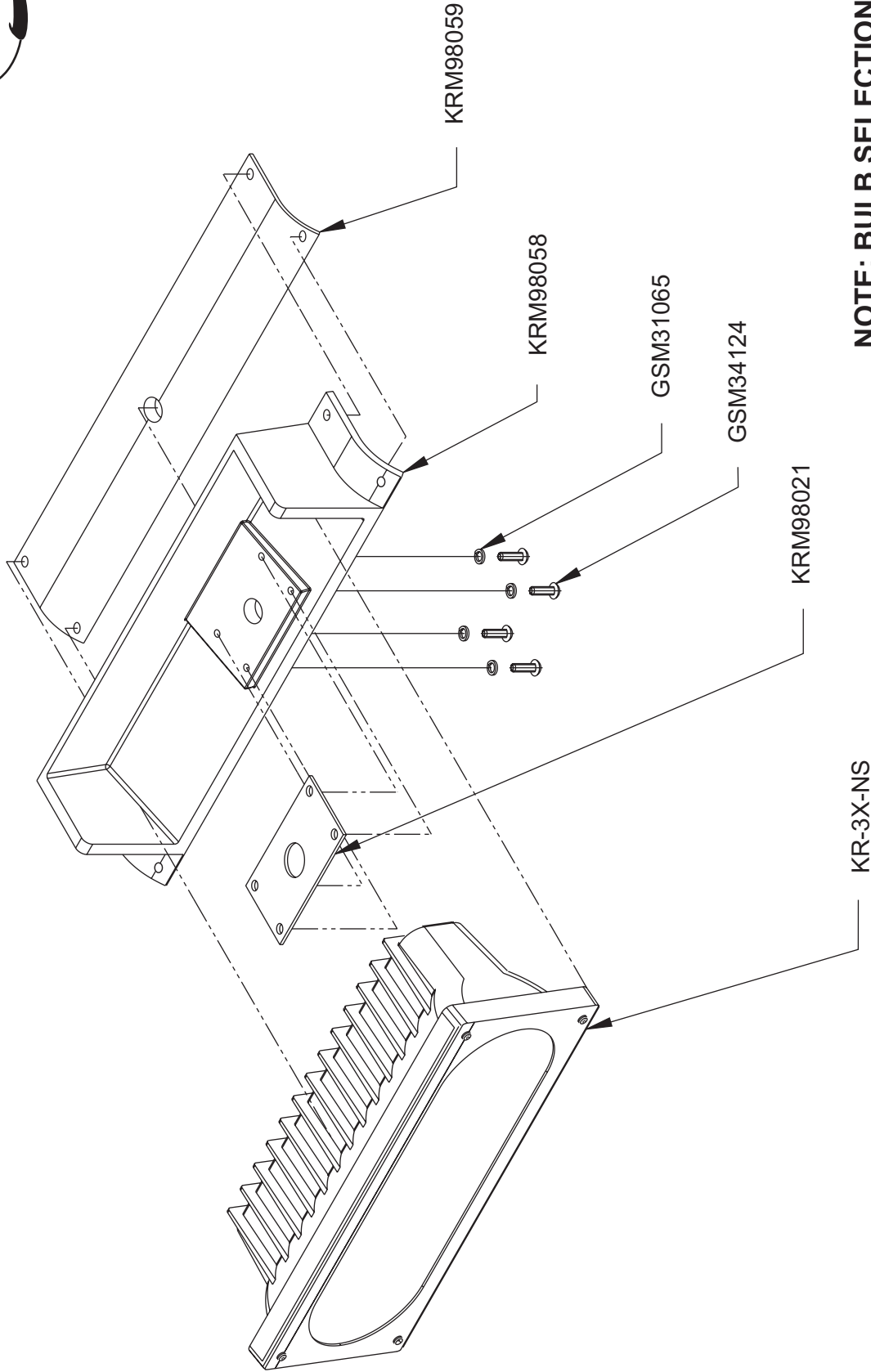


NOTE: BULB SELECTION

"XX" =	31	70 Watt	12 Volt
	33	350 Watt	120 Volt
	36	750 Watt	120 Volt
	37	750 Watt	220 Volt
	39	900 Watt	240 Volt



**KR-15XX-KME SERIES
MAGNAFIRE 3000® KOVATCH CAB
BROW MOUNT**

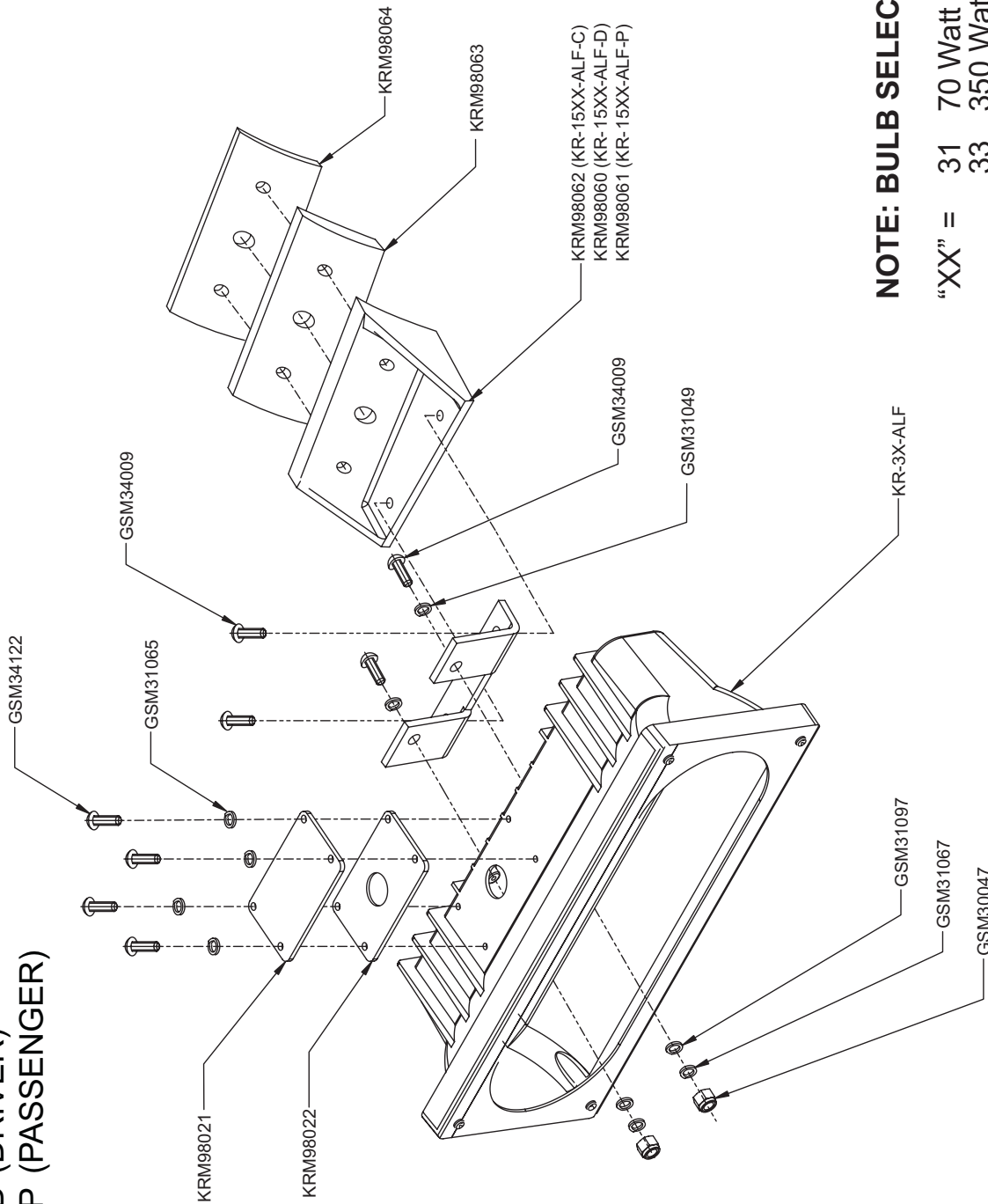


NOTE: BULB SELECTION

"XX" =	31	70 Watt	12 Volt
	33	350 Watt	120 Volt
	36	750 Watt	120 Volt
	37	750 Watt	220 Volt
	39	900 Watt	240 Volt



**KR-15XX-ALF SERIES
MAGNAFIRE 3000® AMERICAN LAFRANCE CAB
BROW MOUNT
KR-15XX-ALF-C (CENTER)
KR-15XX-ALF-D (DRIVER)
KR-15XX-ALF-P (PASSENGER)**

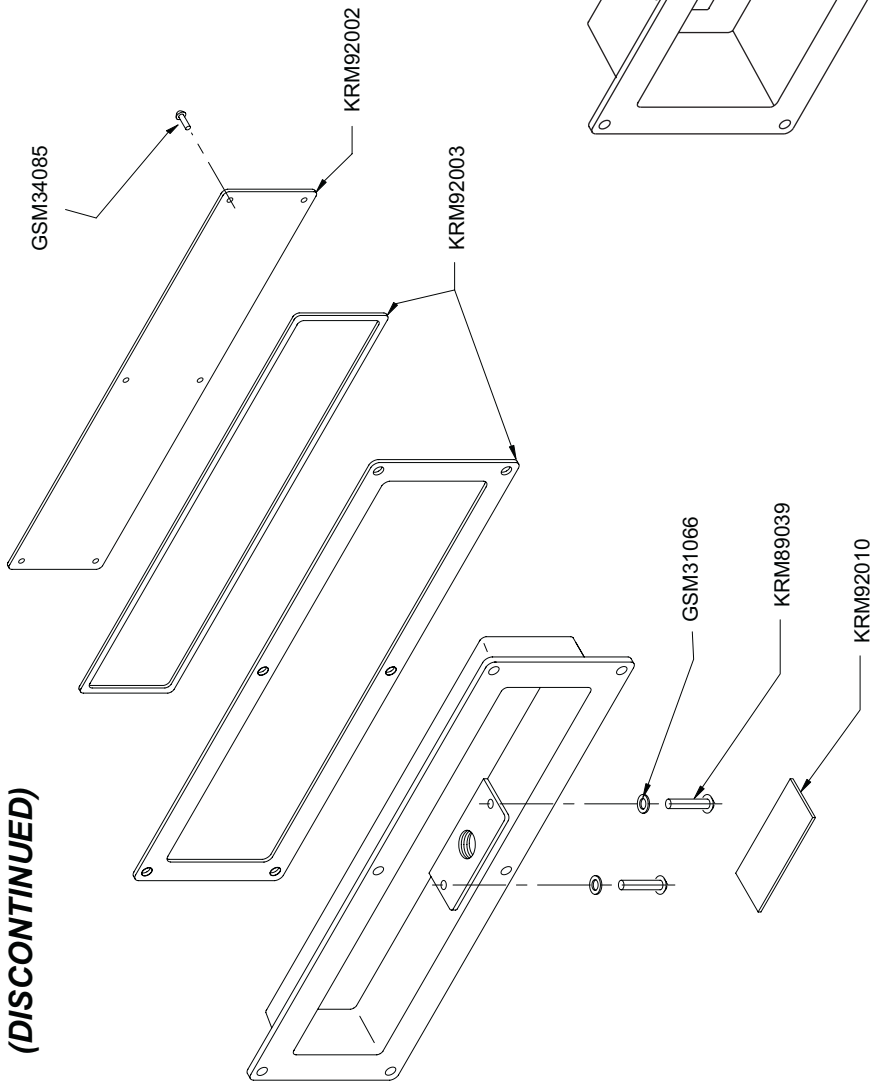


NOTE: BULB SELECTION

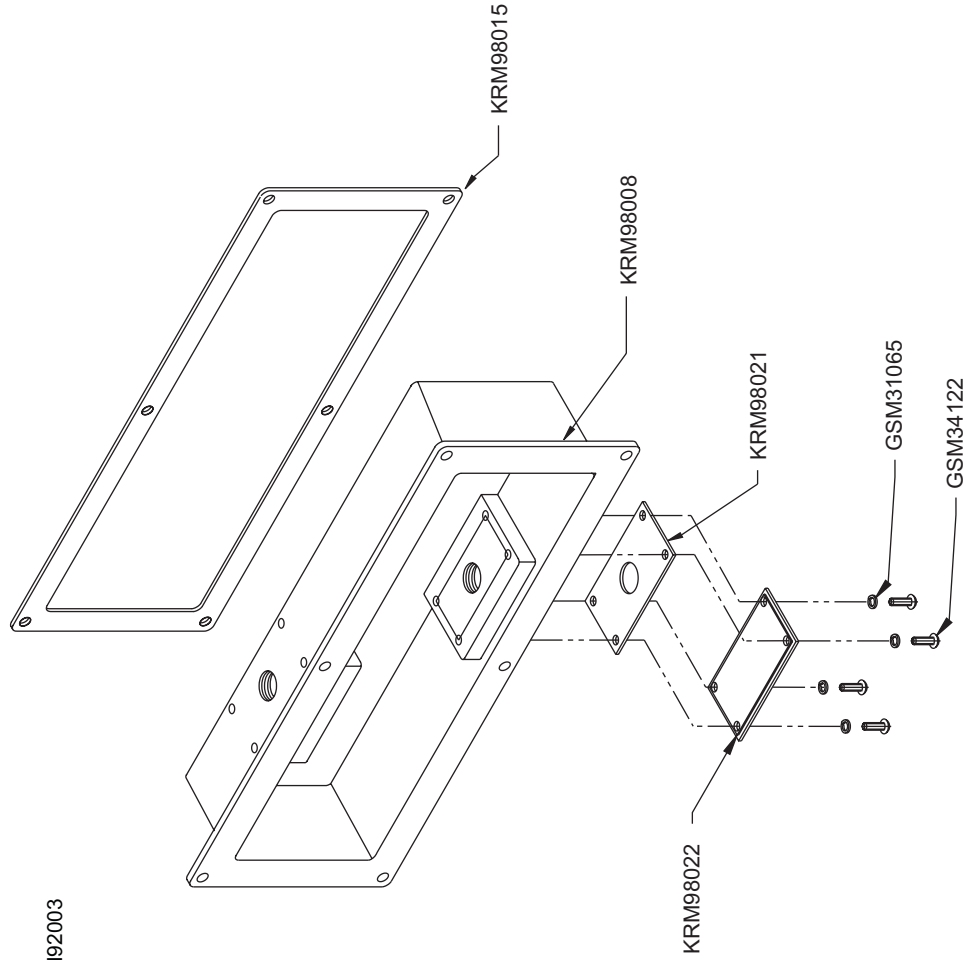
"XX" =	31	70 Watt	12 Volt
	33	350 Watt	120 Volt
	36	750 Watt	120 Volt
	37	750 Watt	220 Volt
	39	900 Watt	240 Volt



KR-1600 / KR-1700 SERIES
 ALPHA 2000® RECESSED MOUNT CASTING
 (DISCONTINUED)



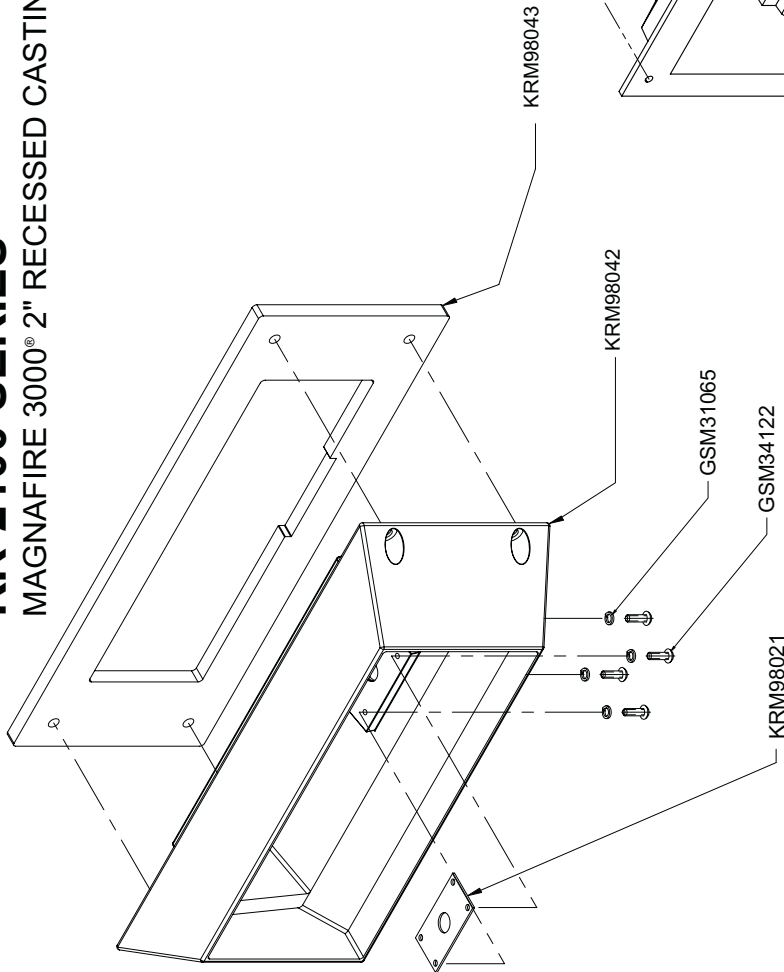
KR-1800 / KR-1900 SERIES
 MAGNAFIRE 3000® RECESSED
 MOUNT CASTING





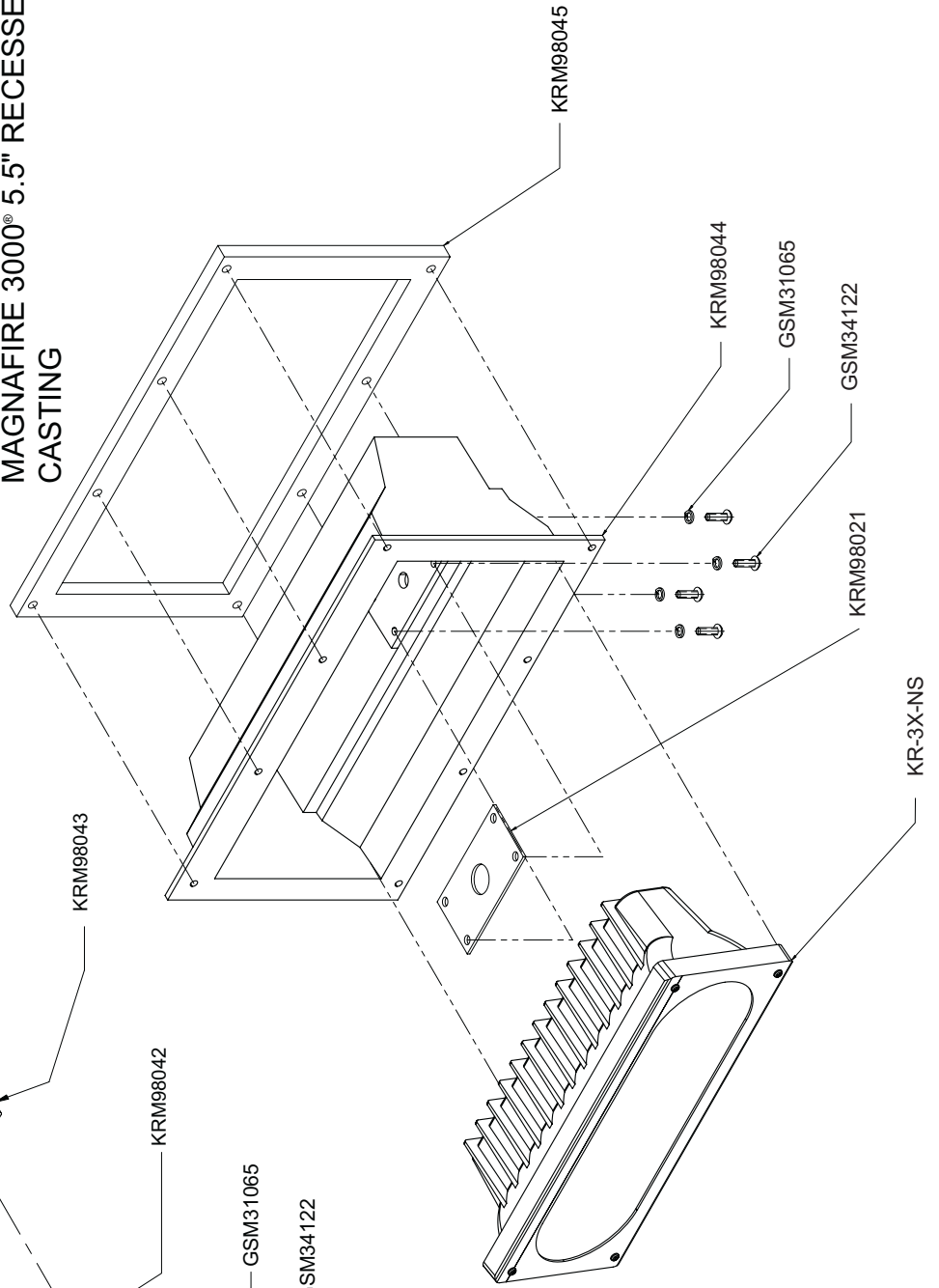
KR-2100 SERIES

MAGNAFIRE 3000® 2" RECESSED CASTING



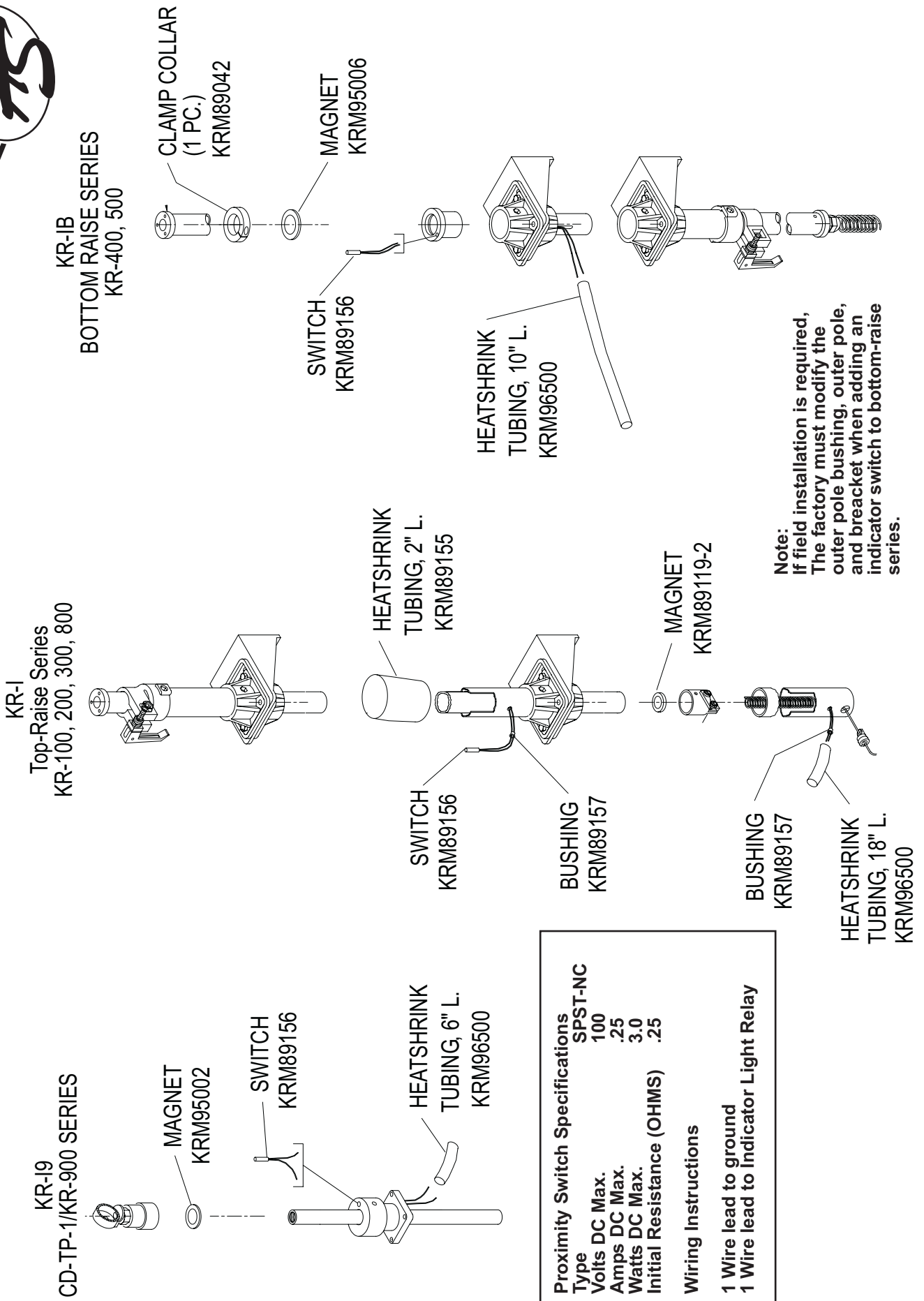
KR-2200/2300 Series

MAGNAFIRE 3000® 5.5" RECESSED CASTING





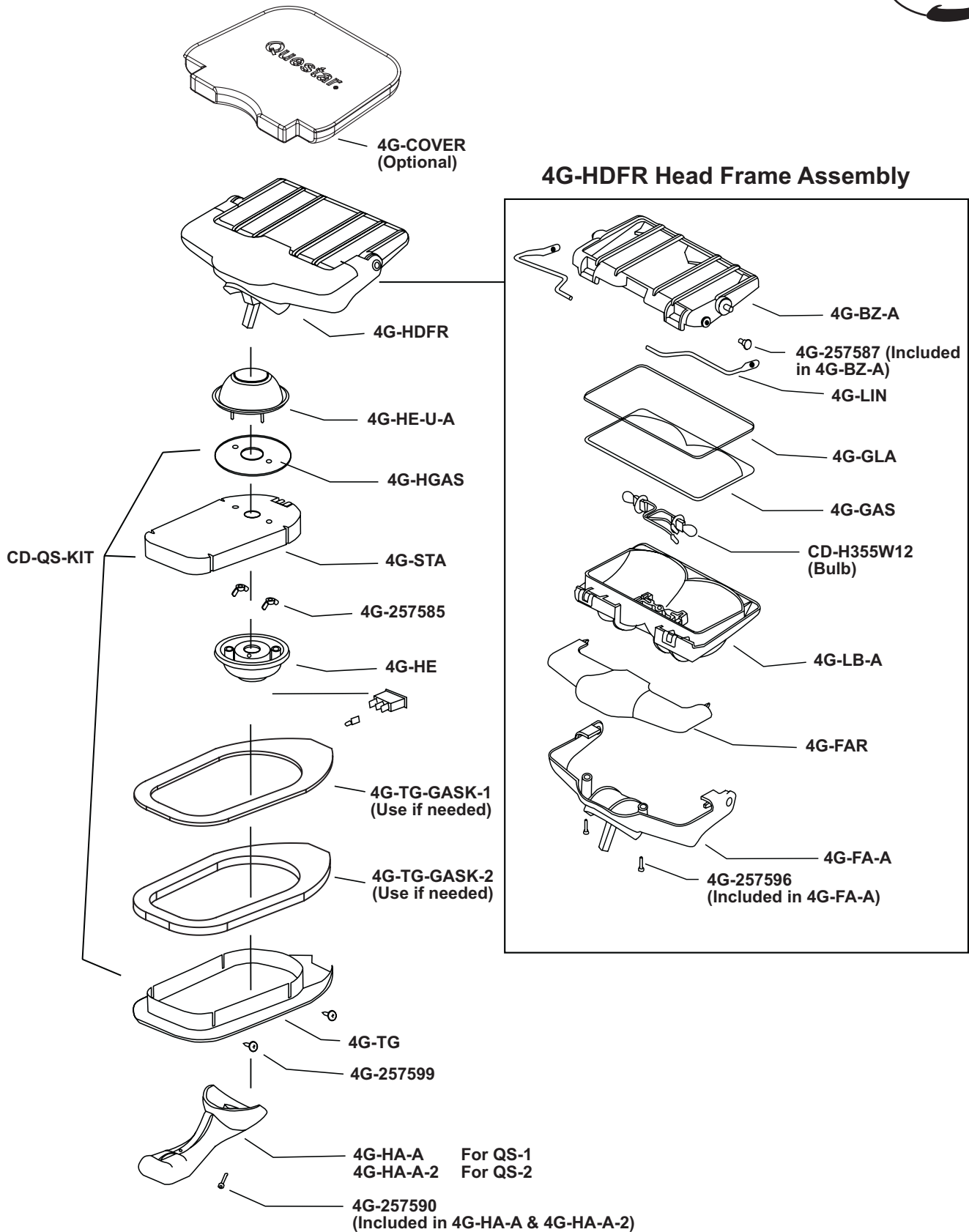
RAISED POLE ASSEMBLIES (KR-I) INDICATOR SWITCHES



Note:
If field installation is required, the factory must modify the outer pole bushing, outer pole, and bracket when adding an indicator switch to bottom-raise series.

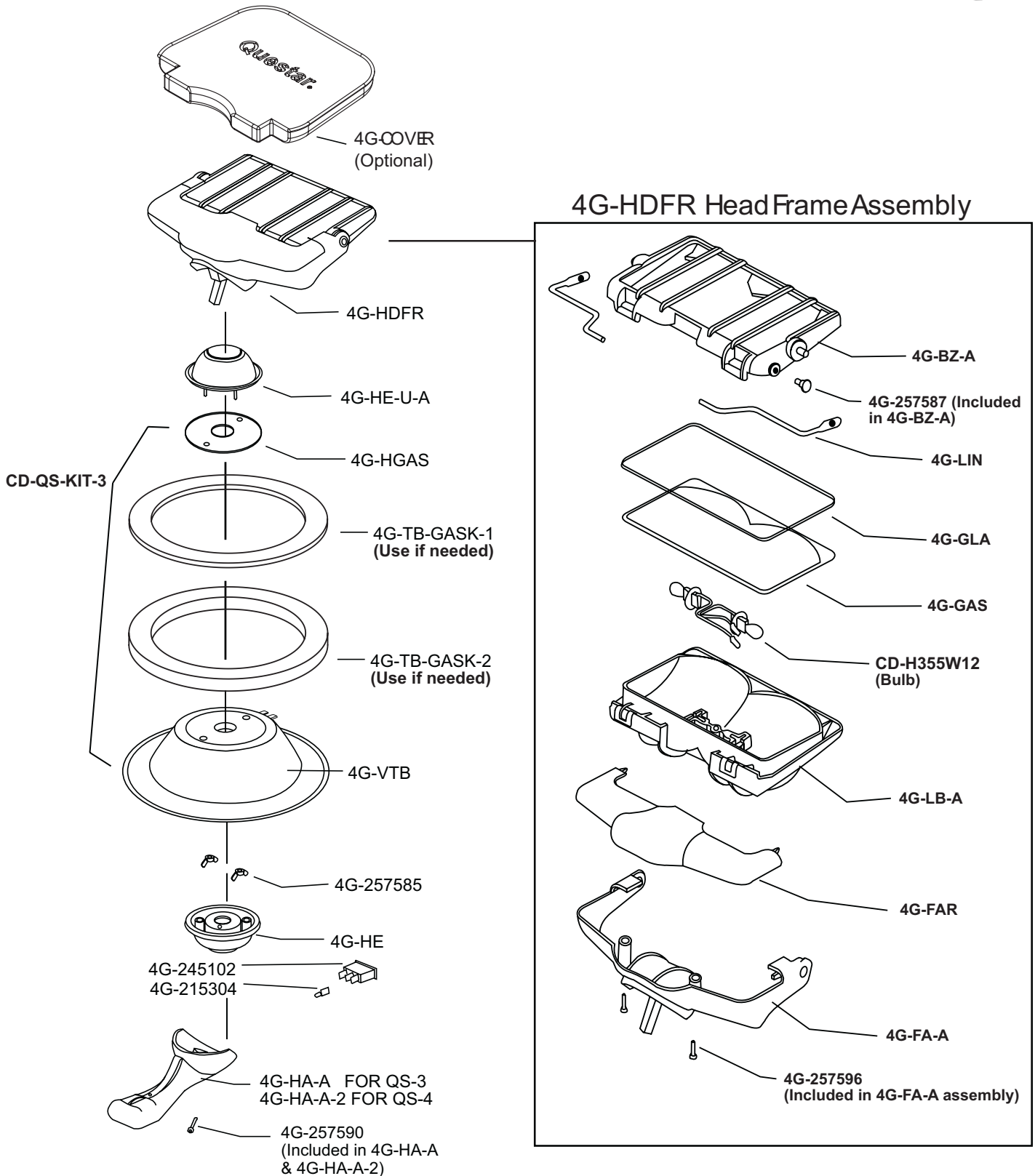
Proximity Switch Specifications	
Type	SPST-NC
Volts DC Max.	100
Amps DC Max.	.25
Watts DC Max.	3.0
Initial Resistance (OHMS)	.25
Wiring Instructions	
1 Wire lead to ground	
1 Wire lead to Indicator Light Relay	

QUESTAR® SPOTLIGHT MODELS CD-QS-1 & CD-QS-2



CD-QS-1-2-PBK-8-04

QUESTAR® SPOTLIGHT MODELS CD-QS-3 & CD-QS-4



CD-QS-3-4-PBK-8-04

Kwik-Raze® Lighting– Magnafire 3000® Series H.I.D. Lighting

IMPORTANT SAFETY INSTRUCTIONS FOR METAL HALIDE LAMP REPLACEMENT

WARNING: Lighted Lamp Is HOT!

To reduce the risk of FIRE, ELECTRICAL SHOCK OR INJURY TO PERSONS:

IMPORTANT- READ THIS FIRST!

The lighthouse reaches its maximum efficiency when operated at an angle of +45 degrees. The 70 watt metal halide lamps have an average life expectancy of 10,000 hours, operate at high temperatures, and at pressures up to 50 psi. Due to the nature of its attributes, the halide lamp can rupture because of internal or external factors such as ballast failure of particles or misapplication.

Rupturing of the bulb can result in the discharge of extremely hot quartz particles (as high as 1000°C). In the event of such a rupture there is a risk of personal injury, damage to property and fire. Therefore, unless the bulb is being replaced, it should remain within the housing and behind the protective lens. **Do not run the lighthouse without its protective lens in place!**

LAMP REPLACEMENT

1. Turn off/ unplug and allow to cool (wait at least 5 minutes) before replacing bulb.
2. Do not remove the lamp from its protective wrapper until you are ready to install it.
3. Always wear clean cotton gloves when handling the bulb.
4. Oil and grease from fingerprints causes hot spots leading to the formation of white spots on the tube surface and premature lamp failure.
5. If the lamp is handled or is contaminated in any way, it can be cleaned by washing with alcohol and drying it with a lint-free cloth.
6. The lamp must be fitted with the outside “nipple” facing to the front, and the inside “nipple” facing up toward the handle.

Proper care and maintenance will reduce the possibility of premature failure.

- Operate only in an approved manner.
- Turn the lamp off at least once a week for a minimum of 15 minutes.
- Do not expose to moisture.
- Replace the lamp if it is scratched, cracked, or damaged in any way.

SAFETY

- This lamp can cause serious skin burns and eye inflammation from shortwave ultraviolet radiation.
- **Do not tamper with the safety features installed in this lighthouse!**
- **Do not look directly at the lamp when operating!**
- **Do not remove the protective lens or replace with a non-approved part!**

Kwik-Raze® Lighting– Alpha 2000® Series

IMPORTANT SAFETY INSTRUCTIONS

WARNING: Lighted Lamp Is HOT!

To reduce the risk of FIRE, ELECTRICAL SHOCK OR INJURY TO PERSONS:

1. Turn off/ unplug and allow to cool before replacing bulb.
2. Bulb gets HOT quickly!
3. Do not touch hot lens or enclosure.
4. Do not remain in light if skin feels warm.
5. Do not look directly at lighted bulb.
6. Keep away from materials that may burn.
7. Use only with a 750 watt or smaller bulb.
8. Do not touch the bulb at any time. Use a soft cloth. Oil from skin may damage bulb.

HOW TO INSTALL LAMP

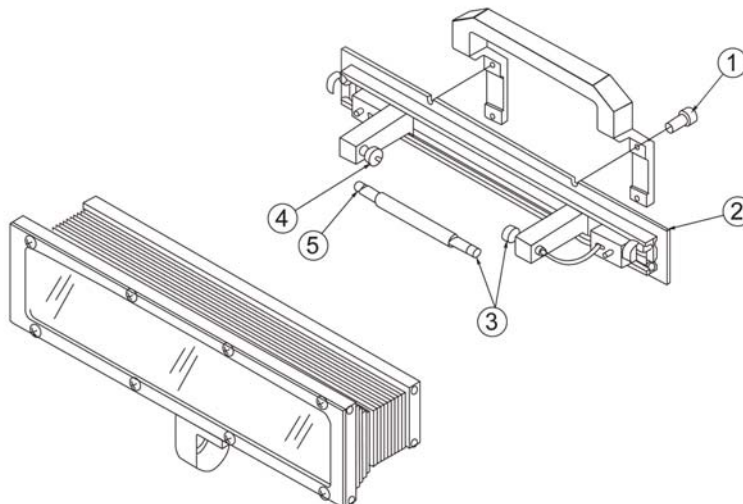
BEFORE INSTALLING LAMP:

- Check that fixture is NOT USED as splice compartment.
- Inspect the condition of the lamp holder porcelain. DO NOT USE if cracked or broken.
- Check to see that lamp voltage matches supply voltage.
- For best performance, follow lamp manufacturer's instructions.
- NOTE: Lamp must be within 4° horizontal for best operating performance.

INSTALLING LAMP: (RELAMP ALPHA FROM REAR ONLY)

To ease the lamping of this quartz fixture, both lamp sockets are spring retractable.

1. Remove eight (8) screws from rear cover of light fixture.
2. Slide rear cover extrusion out of main housing.
3. Fit lamp into right-hand socket.
4. While holding lamp in the right-hand socket, pull back the left-hand spring socket.
5. Fit the other end of the lamp into the retracted left-hand socket, then gently release the spring. (DO NOT allow socket to bang against lamp).
6. Gently move the lamp against socket contacts to assure proper seating.
7. Slide rear cover extrusion back into main housing and replace screws.
8. Align notch on rear cover with tab on main housing.



KR-ALPHA-LAMP-PBK-8-04

Kwik-Raze® Lighting– Stonco Series Fixture 05-10-15 & Magnafire 3000® 33-36-37-39 Fixtures

IMPORTANT SAFETY INSTRUCTIONS

WARNING: Lighted Lamp Is HOT!

To reduce the risk of FIRE, ELECTRICAL SHOCK OR INJURY TO PERSONS:

1. Turn off/ unplug and allow to cool before replacing bulb.
2. Bulb gets HOT quickly!
3. Do not touch hot lens or enclosure.
4. Do not remain in light if skin feels warm.
5. Do not look directly at lighted bulb.
6. Keep away from materials that may burn.
7. Use only with appropriate wattage bulb for the fixture.
8. Do not touch the bulb at any time. Use a soft cloth. Oil from skin may damage bulb.

HOW TO INSTALL LAMP

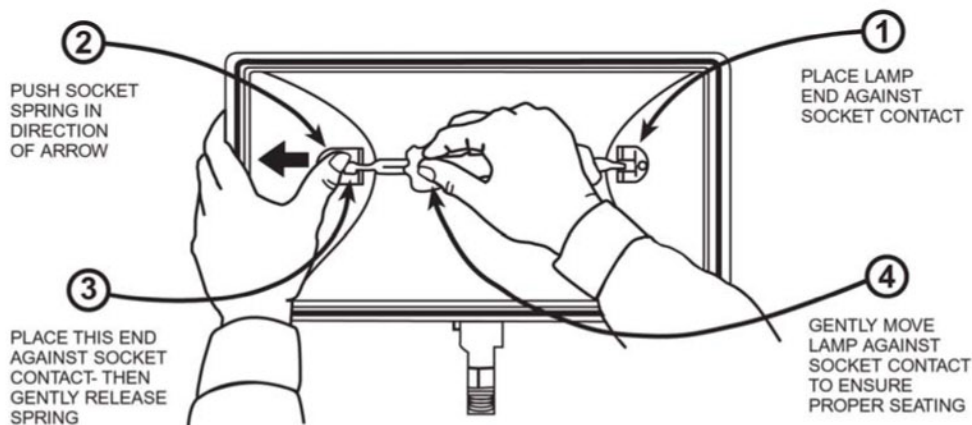
BEFORE INSTALLING LAMP:

- Check that fixture is NOT USED as splice compartment.
- Inspect the condition of the lamp holder porcelain. DO NOT USE if cracked or broken.
- Check to see that lamp voltage matches supply voltage.
- For best performance, follow lamp manufacturer's instructions.
- NOTE: Lamp must be within 4° horizontal for best operating performance.

INSTALLING LAMP: (RELAMP FROM FRONT ONLY)

To ease the lamping of this quartz fixture, one of the lamp sockets (the left socket when fixture is facing you) is spring retractable.

1. Fit lamp into right-hand socket.
2. While holding lamp in the right-hand socket, pull back the left-hand spring socket.
3. Fit the other end of the lamp into the retracted left-hand socket, then gently release the spring. (DO NOT allow socket to bang against lamp).
4. Gently move the lamp against socket contacts to assure proper seating.



UNSB-01183-001

STONCO FIXTURE SHOWN

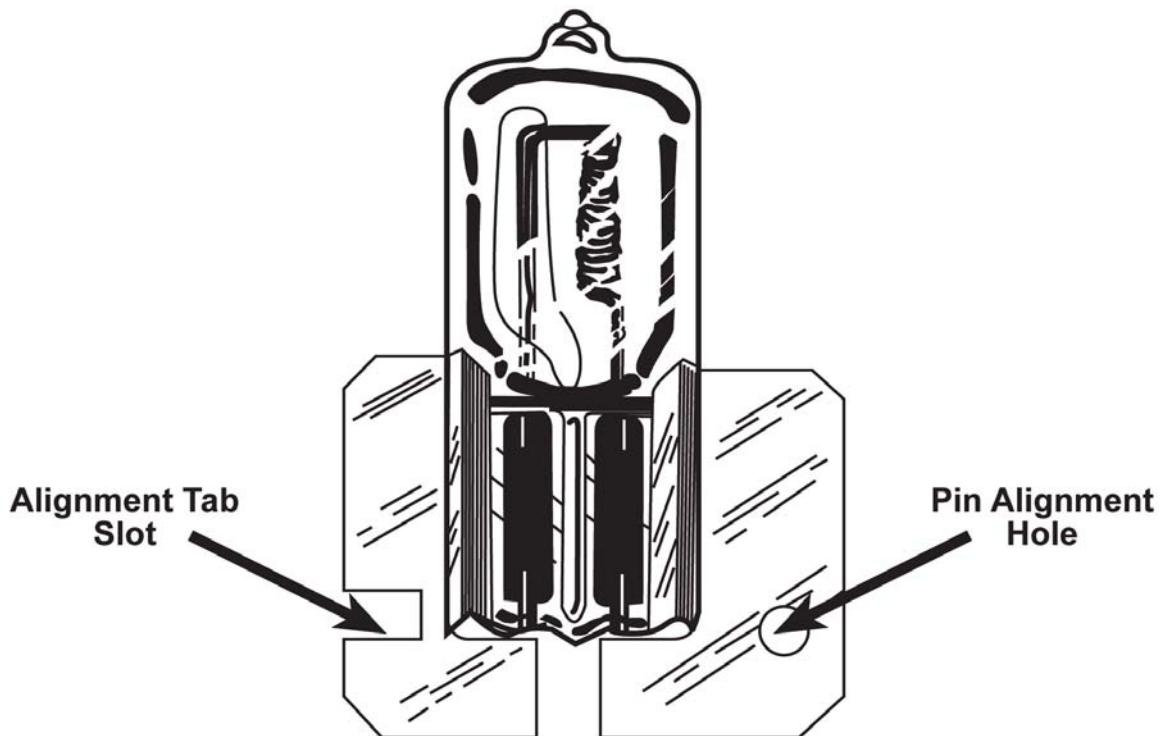
KR-HAL-LAMP-PBK-8-04

12 VOLT & 24 VOLT QUARTZ HALOGEN RELAMPING INSTRUCTIONS

IMPORTANT: Body oil can cause a quartz halogen bulb to overheat and burn out. Handle new bulbs with a clean cloth or wipe clean after touching.

The bulb is held firmly in place by a pin on one side and a tab on the other side of the bulb base. To remove SPOT bulb (front), hold bulb mount in hand with spring clips facing you. Gently lift right spring clip and pop bulb base from tab. Then, gently lift left spring clip and pop bulb base clear of pin.

To install a new bulb, simply reverse the process. To replace FLOOD bulb (rear), grasp base of rear bulb mount in one hand and front half (SPOT mount) in other hand. Firmly pull two halves of bulb mount assembly apart and replace FLOOD bulb (55 watt maximum) in the same manner described for SPOT bulb replacement. Then, align pins and snap bulb mount assembly back together.

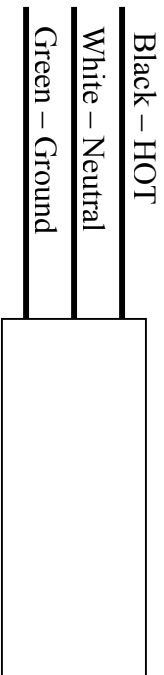




LIGHTING WIRING INSTRUCTIONS

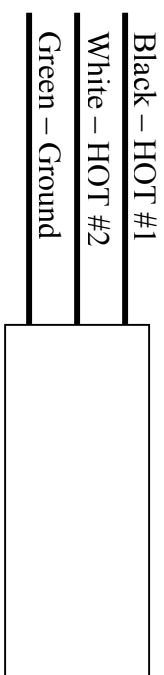
For all 120 vAC Kwik-Raze® Lighting:

- All Kwik-Raze AC fixtures have three (3) wires. The green wire is always ground. On 120v fixtures, attach the black wire to 120v HOT and the white to 120v NEUTRAL.



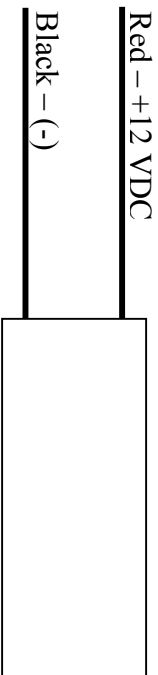
For all 240 vAC Kwik-Raze® Lighting:

- All Kwik-Raze AC fixtures have three (3) wires. The green wire is always ground. On 240v fixtures, attach the black wire to 120v HOT and the white wire to a second 120v HOT.



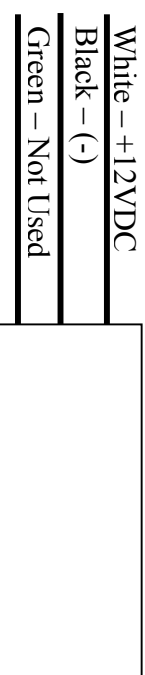
For 12 VDC Kwik-Raze® or Collins Dynamics® Lighting provided with two wires

- All versions have two wires. Attach the red wire to positive 12 VDC and the black wire to negative.



For 12 VDC Kwik-Raze® Lighting provided with three wires:

- All versions have three wires. Attach the white wire to positive 12 VDC and the black wire to negative.
- The green wire is not used and may be capped off.





For All Kwik-Raze® (Optional) Indicator Switches:

- Havis-Shields uses magnetic proximity switches to indicate if a pole is raised or lowered.
- The proximity switch has two leads. Connect one lead to ground, and connect the other lead to the indicator light relay (not supplied).
- Note that the proximity switch is SPST Normally Closed, and is rated to 12 VDC max, 1/4 amp max.

Lead 1 – Ground

Lead 2 – Connect to Relay

Troubleshooting Tips for HID Kwik-Raze® Lighting with Enclosed Ballast:

- Disconnect the red and black wire at the ballast (wires are located in the switch box).
- If the ballast is working, there will be continuity between the red and black wire.
- If there is no continuity, the ballast is defective.
- If there is continuity, replace the lamp.
- If this doesn't correct the problem, return for replacement.

Troubleshooting Tips for Indicator Switches:

- Note that the indicator switches are magnetic proximity switches. When the pole is lowered, a magnet will be in close enough range to trigger the switch. When the pole is raised the magnet will no longer trigger the switch.
- If the indicator light does not function correctly, it will necessary to test the switch circuit.
- Disconnect the indicator switch from the circuit and test it for continuity. When the pole is lowered the switch continuity should indicate the switch is “open” and when raised the switch should be “closed.”
- If the switch circuit passes the continuity test, then check the relay circuit for proper operation.
- If the switch circuit does not pass the continuity test, the switch can be tested for proper operation by passing a magnet over it. If the switch continuity changes when the magnet is in close range, the switch is operating correctly and the problem may be the magnet on the pole has failed and will need to be replaced.
- If the switch continuity does not change when the magnet is in close range, the proximity switch is not functioning and will need to be replaced.

Havis-Shields Policies

Havis-Shields is committed to quality workmanship and Customer Service; therefore, please contact us if you feel a product is not performing, as it should. To return products under Havis-Shields Warranty, contact our Customer Service team at 1.800.524.9900 or call the distributor from whom you purchased the product.

Warranty: Havis-Shields will warrant all furnished equipment against parts failure or malfunction due to design, construction, assembly errors, and/or defective workmanship for a period of time specified below by product line.

This warranty will exclude optional accessory equipment not manufactured by Havis-Shields as well as any malfunction caused by unapproved alteration to original parts, improper installation, overload, damage from accident, abuse, or neglect, or failure to properly service equipment. In addition, this warranty does not cover labor costs. All defects in accessory equipment will be warranted according to the manufacturer's warranty policy (switches, bulbs, etc).

Claims for missing or incorrect parts must be requested within ten (10) business days of receipt of equipment. Warranty claims must be submitted in writing to Havis-Shields. Havis-Shields will issue appropriate credit or replacement part only after receipt and inspection of defective goods. Customer must request factory Return Authorization Form and receive authorization prior to submitting goods. Special orders are not returnable. This warrant is in lieu of all other warranties expressed or implied.

- **Consolidator :** Havis-Shields warrants its Consolidator products for a lifetime period. This warranty includes structural components such as mounting brackets and extruded parts. Excluding StoragePro, warranted for one year from date of purchase.
- **Lighting:** All parts, excluding bulbs, are warranted for two years from date of purchase. All telescoping pole mounting brackets and clamps are guaranteed for life against breakage under normal use.
- **Transport:** Havis-Shields warrants its Transport products (K-9 & Prisoner Transports, and Window Guards) for a period of two years.

Pricing: Prices and specifications are subject to change without notice. Possession of a price list does not constitute the right to purchase directly from Havis-Shields.

Shipping: All prices are F.O.B. factory. Freight is prepaid and charged to the customer and will be shipped "best way" unless otherwise requested. An approximate shipping cost can be quoted when an order is placed. All air and motor freight shipment requests will be made on a freight collect basis only. Customer's freight company name, phone number and account number is required when applicable. Minimum order: \$25.00 net. Terms: net 30 days on pre-approved credit accounts.

Packaging: Partial shipments will be made unless otherwise specified by the customer. In addition, products can be bulk packaged or assembled as complete units. Primarily orders are bulk packaged unless custom packaging is requested when placing an order. Custom packaging may incur some additional cost.

Return Authorization: Customer must request factory **Return Authorization Form** and receive authorization number prior to submitting goods. Havis-Shields must be notified and give its consent for the return of the item(s). RA# must be clearly marked on outside of package. Products being returned due to customer purchasing or shipping error must be returned within 30 days. Shipping cost is the responsibility of the customer and returns are subject to a 15% restocking fee. Items found upon inspection to be defective in material or workmanship by Havis-Shields will be replaced. Unauthorized returns will be refused. Special orders are not returnable.