

→ GROUND SUPPORT EQUIPMENT



TOW BAR CATALOGUE



Precision in Aircraft Support



TOW BARS FOR COMMERCIAL AIRCRAFT

HYDRO tow bars are designed in accordance to the requirements from aircraft manufacturers and the applicable norms and standards. They fit perfectly to operators needs. The free floating axle enables an easy connection to the NLG.

The maintenance free hand pump with integrated spring and dead-man circuit guarantees high safety and outstanding accuracy. Customers all over the world trust in the outstanding quality made in Germany.

Rigid tow head:

- Bolted steel design ensures close fit and easy replacement, reducing damage or wear on tow fittings
- Tight tolerances enable accurate operation and safe shear pin brake
- Ergonomic design
- All parts are galvanized

Options available:

- Revolving tow head

Spare shear pins:

- Stock availability of spare shear pins

Tow bar tube:

- Made of steel
- Length provides optimum distance between NLG and tow tractor to safely prevent collision.

Options available:

- Aluminium tow bar tube
- Split tow bar tube

Hydraulic hand pump:

- Allows accurate control of lowering
- Integrated spring and dead-man circuit
- Encapsulated hydraulic system (no rubber hoses, no external fittings)
- Maintenance free
- Fast and easy replacement
- Exchange-service with refurbished hand-pumps

Rigid tow eye:

- Bolted steel design provides strong attachment to tow tractor and ensures easy replacement

Options available:

- Revolving tow eye
- Shock absorber



Retaining pin:

- Prevents separation of tow bar and tow tractor after shear pin fracture
- Maximum safety in operation and aircraft handling

Shear pins for push/pull and torque:

- Specifically designed into each type of tow head for protection of nose landing gear and maximum safety

Floating axle system:

- Quick and easy connection of towhead and NLG through equalization of lateral misalignments

Heavy duty air inflated tires:

- Provide smooth operation and safe tow bar behavior when towed for a long and reliable service life

Options available:

- Solid rubber tires

Hydraulically height adjustable undercarriage:

- Comfortable and quick adjustability to tow tractors connection height

Optimized finish:

- Sandblasted after welding
 - One layer of primer followed by two layers of SKYDROL-resistant 2k-Epoxy paint (RAL1028)
 - All non painted parts are galvanized
- Optimum corrosion resistance for a long service life

Welded steel handles:

- Easy and safe handling



TOW BARS FOR BUSINESS & REGIONAL AIRCRAFT

Tow bars for today's and tomorrow's business and regional aircraft. The HYDRO TOWMULTI system allows you to handle all different types of business and regional aircraft by simply replacing the tow head.

All tow bar components such as tube, undercarriage, tow eye etc. are bolted rather than welded. This modular concept provides the highest flexibility and simplifies equipment maintenance radically.

Rigid tow head

- Modular design of tow bar enables interchangeable tow heads
- Multi-purpose applications
- Easily interchangeable through connection via ball-lock pin

Options available:

- Revolving tow head



Retaining pin:

- Prevents separation of tow bar and tow tractor after shear pin fracture.
- Maximum safety in operation and aircraft handling

Tow bar tube:

- Welded aluminium design
- Length provides optimum distance between NLG and tow tractor to safely prevent collision.

Tow eye:

- Revolving
- Shock absorbing

Finish:

- Sandblasted after welding
- One layer of primer followed by two layers of SKYDROL-resistant 2k-Epoxy paint (RAL1028)
- Non painted parts are galvanized
- Optimum corrosion resistance for a long service life

Heavy duty air inflated tires:

- Provide smooth operation and safe tow bar behavior when towed for a long and reliable service life

Options available:

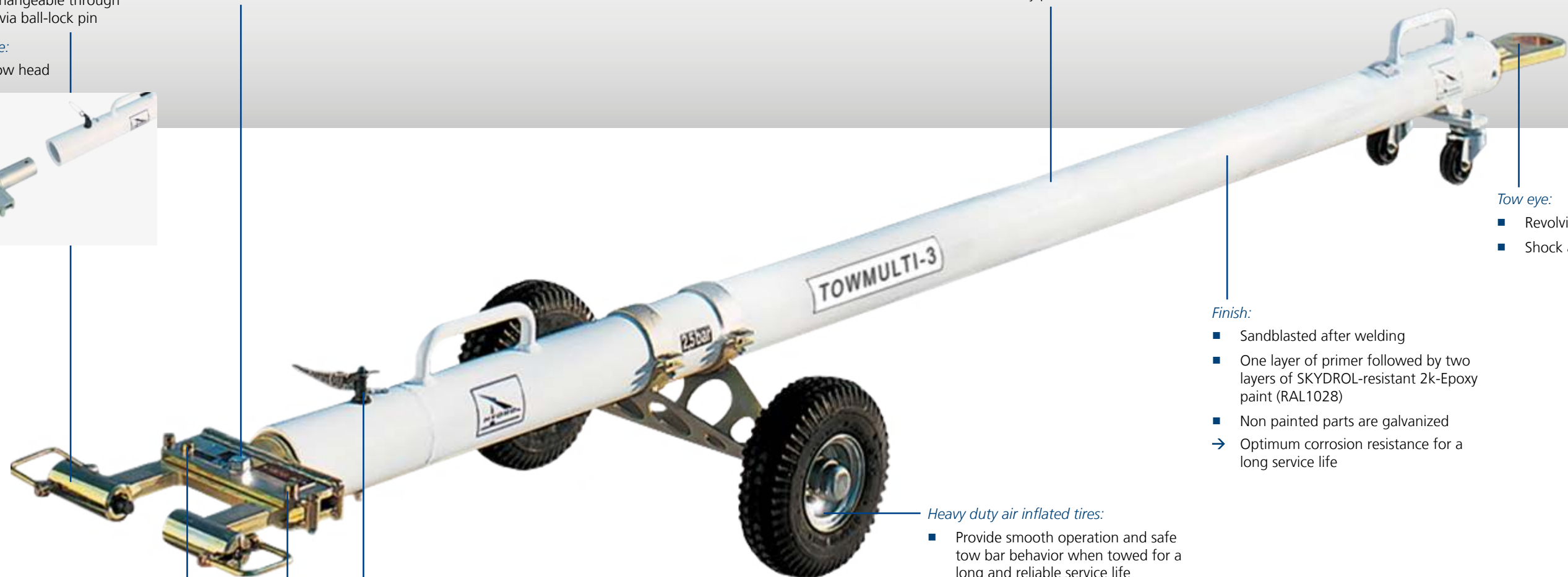
- Solid rubber tires

Shear pins for push/pull and torque:

- Specifically designed into each type of tow head for protection of nose landing gear and maximum safety

Ball-lock pin:

- For easy and secure fixation of tow head





TOW BAR MODELS FOR COMMERCIAL AIRCRAFT

Manu- facturer	Aircraft	Standard tow bar	Standard towhead	Length	Universal tow bar	TOWMULTI multiple applications	TOWMULTI towhead	Fly-Away tow bar
AIRBUS	A300, A310	TOWA300-L	Lock pin type	4.1 m		TOWMULTI-1	TOWHEAD-1C/-1J	TOWA310-L-8
		TOWA300-C	Clamp type	4.3 m		TOWMULTI-1	TOWHEAD-1D	TOWA310-C-8
	A318, A319, A320, A321, A319neo, A320neo, A321neo	TOWA320S	Clamp type, revolving	5.3 m	TOWUNIV-3	TOWMULTI-2	TOWHEAD-2C	TOWA320F11SH1
	A330, A340-200/-300, A350-900/-1000, A350-1000 B767, IL-96	TOWUNIV4S	Clamp type	4.4 m		TOWMULTI-1	TOWHEAD-1A	TOWA330-C-8 TOWA350-C-8
	A340-500/-600	TOWA345-C	Clamp type	4.4 m		TOWMULTI-1	TOWHEAD-1K	TOWA345-C-8
BOEING	A380	TOWA380-C	Clamp type	3.6 m				TOWA380-C-1+4+8
	B707	TOWB707-L	Lock pin type	5.3 m				
	B717	TOWMD80-L	Lock pin type	3.7 m				
	B727	TOWB727-L	Lock pin type	4.1 m		TOWMULTI-1	TOWHEAD-1C	
	B737-300/-400/-500/-600/-700/-800/-900/-7/-8/-9	TOWB737S	Clamp type	5.2 m	TOWUNIV-3	TOWMULTI-2	TOWHEAD-2B	TOWB737F11SH1
	B747	TOWB747-L	Lock pin type	4.2 m		TOWMULTI-1	TOWHEAD-1E	TOWB747-C-8
	B757	TOWB757-C	Clamp type	4.4 m		TOWMULTI-1	TOWHEAD-1F/-2H	TOWB757-C-8
	B767 A330, A340-200/-300, A350-900/-1000, A350-1000, IL-96	TOWUNIV4S	Clamp type	4.4 m		TOWMULTI-1	TOWHEAD-1A	TOWB767-C-8
	B777, B787-8/-9	TOWUNIV5S	Clamp type	5.7 m	TOWUNIV6S		TOWHEAD-1N	TOWB787-C-8
	DC-3							TOWDC3-C-1+8
McDONNELL DOUGLAS	DC-8	TOWDC08-L	Lock pin type	5.7 m				
	DC-9	TOWMD80-L	Lock pin type	3.7 m		TOWMULTI-2	TOWHEAD-2D	
	MD-80, MD-90	TOWMD80-L	Lock pin type	3.7 m		TOWMULTI-2	TOWHEAD-2D	
	DC-10, MD-11 B777, B787-8/-9	TOWUNIV6S	Clamp type	5.7 m			TOWHEAD-1N	
ANTONOV	AN-12	TOWAN12-L	Lock pin type	5.7 m		TOWMULTI-2	TOWHEAD-2G	
	AN-124	TOWAN124-L	Lock pin type	5.8 m				TOWAN124-L-001
ILYUSHIN	IL-62	TOWIL62-L	Lock pin type	5.3 m		TOWMULTI-1	TOWHEAD-1H	
	IL-76	TOWIL76-L	Lock pin type	7.6 m				TOWIL76-L-8
	IL-86	TOWIL86-L	Lock pin type	4.1 m				
	IL-96 A330, A340-200/-300, A350-900, A350-1000, B767	TOWUNIV4S	Clamp type	4.4 m		TOWMULTI-1	TOWHEAD-1A	TOWIL96-C-8
TUPOLEV	TU-134	TOWT134-L	Lock pin type	5.2 m		TOWMULTI-2	TOWHEAD-2E	
	TU-154	TOWT154-L	Lock pin type	5.2 m		TOWMULTI-2	TOWHEAD-2F	
	TU-204/TU-214	TOWT204-C	Clamp type	4.3 m		TOWMULTI-1	TOWHEAD-1G	TOWT204-C-1+8

Further tow bar models upon request or under www.hydro.aero/en/products

TOW BAR MODELS FOR REGIONAL AND BUSINESS AIRCRAFT

Manu- facturer	Aircraft	Standard tow bar	Standard towhead	Length	TOWMULTI multiple applications	TOWMULTI towhead	Fly-Away tow bar
ANTONOV	AN-24/AN-26	TOWAN26-L	Lock pin type	4.2 m			
	AN-72/AN-74	TOWAN74-L	Lock pin type	4.5 m			
	AN-148	TOWAN148-C	Clamp type	4,3 m			TOWAN148-C-1+8
ATR	ATR 42/ATR 72	TOWATRA-C	Clamp type	3.5 m	TOWMULTI-3	TOWHEAD-3U	TOWMULTI-3-8
BAE SYSTEMS/ Avro	BAE 146/AVRO RJ70/AVRO RJ85/AVRO RJ100/AVRO RJ115	TOWAVRO-C	Clamp type	3.9 m			TOWAVRO-C-1+8
BOMBARDIER/ CANADAIR/ DeHAVILLAND	CRJ-100/-200/-700/-900/-1000	TOWREGI-L	Lock pin type	3.9 m			
	Dash7	TOWMULTI-3	Lock pin type	3.2 m*		TOWHEAD-31J	TOWMULTI-3+8
	Dash8-100		Clamp type		TOWMULTI-3	TOWHEAD-3A	TOWMULTI-3+8
	Dash8-300		Clamp type		TOWMULTI-3	TOWHEAD-3A	TOWMULTI-3+8
	Dash8-Q400	TOWMULTI-3	Clamp type	3.2 m*		TOWHEAD-3B	TOWMULTI-3+8
	GlobalExpress	TOWGLOB-L	Lock pin type	4.0 m			TOWGLOB-L-001
	Challenger 300	TOWCL300-L	Lock pin type	3.7 m	TOWMULTI-3	TOWHEAD-31L	TOWMULTI-3+8
	Challenger 850	TOWREGI-L	Lock pin type	3.9 m			
COMAC	CS-100/-300	TOWCS300-C	Clamp type	5.3 m			TOWCS300-C-1+8
	ARJ21-700						TOWARJ21-C-1+8
DASSAULT/ Falcon	Falcon 50EX/900DX/900EX	TOWMULTI-3	Clamp type	3.2 m*		TOWHEAD-3S	TOWMULTI-3+8
	Falcon 2000DX/2000EX	TOWMULTI-3	Clamp type	3.2 m*		TOWHEAD-3S	TOWMULTI-3+8
DORNIER	DO328	TOWD328-L	Lockpin type	3.2 m	TOWMULTI-3	TOWHEAD-3C	TOWD328-L-8
EMBRAER	ERJ-135/-140/-145/Legacy	TOWE145-L	Lock pin type	3.7 m	TOWMULTI-3	TOWHEAD-3F	TOWMULTI-3+8
	EMBRAER 170/175/190/195/Lineage 1000	TOWE170-C-4	Clamp type	5.3 m			TOWE170-C-1+8
FOKKER	F-27	TOWFO27-L	Lock pin type	2.1 m			
	F-28	TOWFO28-L	Lock pin type	4.0 m			
	Fokker 50/60	TOWFO50-C	Clamp type	3.2 m	TOWMULTI-3	TOWHEAD-3Q	TOWMULTI-3+8
	Fokker 70/100	TOWFO70-C	Clamp type	4.4 m			TOWFO70-C-1+8
GULFSTREAM	GV/G350/G450/G500/G550	TOWMULTI-3	Lock pin type	3.2 m*		TOWHEAD-3G	TOWMULTI-3+8
HAWKER BEECHCRAFT (Raytheon)	Premier	TOWMULTI-3	Lock pin type	3.2 m*		TOWHEAD-31X	TOWMULTI-3+8
SAAB	Saab 340/2000	TOWSAAB-L	Lock pin type	3.8 m	TOWMULTI-3	TOWHEAD-3D	TOWMULTI-3+8
SOCATA	TBM700	TOWMULTI-3		3.2 m*		TOWHEAD-31U	TOWMULTI-3+8
SUKHOI	Superjet 100	TOWRRJ-C-4+6	Clamp type	5.3 m			TOWRRJ-C-1+8
YAKOVLEV	Yak-40	TOWYK40-L	Lock pin type	3.5 m			
	Yak-42	TOWYK42-L	Lock pin type	5.2 m			

* Length of tube only

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HYDRO AIRCRAFT TOW BARS

TOW BAR MODELS FOR MILITARY AIRCRAFT

Manu- facturer	Aircraft	Standard tow bar	Standard towhead	Length	TOWMULTI multiple applications	TOWMULTI towhead	Fly-Away tow bar
AIRBUS HELICOPTERS	AS 532		Clamp type	3.0 m			TOWCOUG-C-8
	Tiger	T322G10T0005 TOWBARTIGER-C	Lock pin type	3.0 m			
ANTONOV	AN-178	TOWAN178-C	Clamp type	4.6 m			
BAE SYSTEMS	Taranis	TOWMULTI-3		3.2 m*		TOWHEAD-31V	
BOEING- VERTOL	CH-47	TOWCH47-L	Lock pin type	4.0 m			TOWCH47-L-1+8
EADS CASA	C295, CN235	TOWC295-L-002	Lock pin type	3.5 m	TOWMULTI-3	TOWHEAD-31E	TOWMULTI-3-8
	A400M	TOWA400-C	Clamp type	6.1 m			TOWA400-C-4+8
EUROFIGHTER	Typhoon	TOWEF20-L-001	Lock pin type	6.8 m			
HINDUSTAN AERONAUTICS	HJT-36 Sitara	TOWIJT36-L	Lock pin type	4.0 m			
LOCKHEED	C-130	TOWC130-C	Clamp type	6.0 m			
MIL	MI-8	TOWMULTI-3		3.2 m*		TOWHEAD-31R	
	MI-26	TOWMI26-L	Lock pin type	5.2 m			
NATO HELICOPTER INDUSTRIES	NH90	TOWNH90-L	Lock pin type	3.7 m			
SIKORSKY	CH-53	TOWCH53-L-001	Lock pin type	5.1 m			
TRANSALL	C-160	TOWC160	Lock pin type	6.7 m			



TOWCH53-L-001 for SIKORSKY CH53



TOWA330-C



TOWA380-C



TOWUNIV5S20SH1



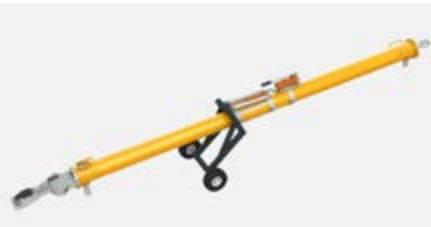
TOWA380-C-1+4+8 Fly-Away Tow Bar



TOWA320F11SH1 Fly-Away Tow Bar



TOWB747-C-8 Fly-Away Tow Bar



TOWB787-C



TOWB737S20SH1



TOWE170-C-4



TOWHEAD-1D



TOWMULTI-3



TOWREGI-L



TOWRRJ-C-4



TOWA320S20RH1



TOWAN-124-L-6

* Length of tube only

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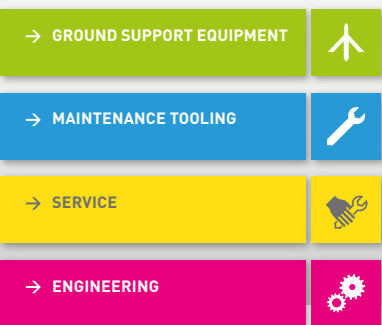


HYDRO TOW BARS, THE INSPIRING BEST PRACTICE SOLUTION

Testimonial

"As a company dnata are expanding throughout the UK, having opened new operations in London Heathrow and Manchester airports. To support our customer airlines HYDRO have become the preferred supplier for aircraft tow bars. The reasons are simple; the package is excellent from customer services, quality of product, after sales support to delivery times. We consider HYDRO to be the world leader in design and safety aspects giving confidence for use in our operation. Tight schedules have not been a problem as HYDRO have been working in partnership to help us achieve them."

John Edmunds, Business Manager at DNATA



HYDRO_Tow Bar Catalogue_1701.

IN SAFE HANDS.

Strong. Leading. Worldwide. HYDRO means innovation, quality and reliability for aircraft and engine manufacturers, MROs, airlines and airports around the world. From the development of turnkey system solutions through to the manufacture of Ground Support Equipment and Tooling, including a diverse range of services, we provide all your requirements from a single source.

As the global market leader, HYDRO sets the benchmark. With our highly experienced development teams, our wide-ranging innovative product portfolio, modern production facilities and class-leading supply chains, you get genuine quality from HYDRO. Precise, reliable and without costly interfaces. HYDRO is truly your "One Stop Shop", a leader within its industry.

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