



**Duff-Norton**  
Jacks

Product  
Guide



**Since 1883**



Since 1883, Duff-Norton has manufactured quality industrial lifting, positioning and material handling equipment. Today Duff-Norton continues this tradition through its dedication to the ISO 9001 standard of excellence.



## Products Manufactured



Rotary Unions®



Electromechanical Actuators



Mechanical Actuators



Jacks

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## Ratchet Jacks

Duff-Norton ratchet jacks are available in 5 to 20 ton capacities for lifting and lowering loads in a wide range of applications. These jacks feature Duff-Norton's exclusive patented spring mechanism in one self-contained unit - can be adjusted, repaired or replaced without dismantling jack. Load is moved one notch at a time both lifting and lowering.

### Features:

- Rack bars can be hand-pulled to meet load. Recessed covers in housing protect lifting mechanism. Fulcrum centers located for maximum speed and lifting ease. Curved tops standard on all units.
- Manufactured in compliance with ASME B30.1
- 5 ton models can be trip lowered under no load
- Model 1022B housing is aluminum alloy; all other models are ductile iron
- Operating levers (sold separately) are available as follows: models 514-MT, 516-MT and 521-MT use lever X4712 (1" dia. x 30" long); models 1022B, 1522, 1528 and 2028 use lever X4739 (1 1/4" dia. x 60" long)

Capacity (tons)	Model Number	Product Code	Height (inches)	Raise (inches)	Base (inches)	Head (inches)	Foot Lift Height (in)	Rack Size (inches)	Weight (lb)
5	514 -MT	00202C	14	7 1/2	5 1/4 x 7 3/4	2 1/2 x 2 3/4	1 1/2	1 1/4 x 1 1/2	29
5	516-MT	00204	16	9 1/2	5 1/4 x 7 3/4	2 1/2 x 2 3/4	1 1/2	1 1/4 x 1 1/2	34
5	521-MT	00206	21	14 1/2	5 1/4 x 7 3/4	2 1/2 x 2 3/4	1 1/2	1 1/4 x 1 1/2	40
10	1022 B	00208	22	12 1/2	7 x 10 1/4	3 x 3	2	1 1/2 x 1 1/2	48
15 Top 7 1/2 Toe	1522	00210	22	11 1/2	8 x 11	3 x 3 1/2	2 1/2	1 3/4 x 2 1/4	80
15 Top 7 1/2 Toe	1528	00212	28	17 1/2	8 x 11	3 x 3 1/2	2 1/2	1 3/4 x 2 1/4	97
20 Top 10 Toe	2028	00214	28	18	8 x 11	3 x 3 1/2	2 1/2	1 3/4 x 2 1/4	106



## Track Jacks

**Warning:** Track jacks are intended for use only in railway track maintenance and are trip lowering. Trip lowering jacks quickly drop the load and cannot be safely lowered incrementally. They should never be used for general purpose lifting.

### Features:

- Rated load: 15 tons
- Broad toe design provides enhanced load engagement
- Tripping is quick and positive
- Strong, lightweight aluminum housing provides easy portability
- Spring loaded pawls ensure teeth-to-rack engagement
- Rigid horn-type handle allows easy spotting and carrying
- Designed for use with standard 1 1/2" square x 66" long railroad lining bars

Capacity (tons)	Model Number	Product Code	Height (inches)	Raise (inches)	Base (inches)	Head (inches)	Foot Lift Height (in)	Rack Size (in)	Weight (lb)
15	517-AD	01303	11 1/2	5	6 1/2 x 10 1/4	---	2	1 1/2 x 1 1/2	33
15	117-AD	01302	22	12	6 1/2 x 11	3 x 3	2	1 1/2 x 1 1/2	49

## Journal Jacks

Duff-Norton journal jacks are available in 15 to 100 ton capacities for use in construction, railroads, shipbuilding, building moving and industrial plants. These jacks are constructed for rough outdoor service. Lifting mechanism is totally enclosed, packed in grease and sealed to prevent leakage. Thread pitch on ball bearing mounted lifting screw gives maximum load raise for every stroke of lever bar. Positive safety stop prevents standard from being run out of the base. Jacks are internally keyed to prevent standard from turning. Easy to carry and spot.

### Features:

- One piece, high grade cast housing, cold drawn seamless steel standard, drop forged steel head, heat treated alloy steel screw, heat treated alloy steel gears, aluminum bronze nut, large load bearings, alloy steel ratchet assembly, bronze bushed pinion shank and screw stem.
- Manufactured in compliance with ASME B30.1
- Operating levers (sold separately) are available as follows: models 111-C2 and 1507 use lever X2486 (7/8" dia. x 28" long); models 2510-C2 and 3510-C3 use lever X2679 (1-1/8" dia. x 36" long); model 5010-C4 use lever N40 (1-1/8" dia. x 48" long); model 100-A12 use lever X4513 (1-1/8" dia. x 60" long)



Capacity (tons)	Model Number	Product Code	Housing Type	Height (in)	Raise (in)	Base Dia. (in)	Head Dia. (in)	Weight (lbs)
15	1507	00603	Ductile iron	7	2 1/2	4 3/4	2 5/8	22
15	111-C2	00601	Malleable iron	10	5	4 3/4	2 5/8	26
25	2510-C2	00607	Ductile iron	10	5	5 3/8	3	38
35	3510-C3	00611	Ductile iron	10 3/8	5	5 7/8	3 5/8	51
50	5010-C4	00615	Ductile iron	10 1/2	4 1/2	7 1/8	4	70
100 sustaining, 75 lifting	100-A12	00617	Aluminum	12	4	8 3/4	5	103



## Cable Reel Jacks

Duff-Norton offers cable reel jacks in 5 and 10 ton capacities for holding reels from 15 to 90 inches in diameter. These jacks are utilized by phone and cable companies, utility companies, industrial plants, warehouses and shipyards.

### Features:

- Ratchet reel type jacks with reinforced hardwood bases
- Manufactured in compliance with ASME B30.1
- Model 524-MCR has adjustable front hook and seats up to 2-inch spindles, holds 15 to 60 inch reels
- Model 1022-CRA has a top hook and three front hooks, seats up to 2-inch spindles, holds 25 to 90 inch reels
- Model 1030-CRA has a T-frame base and top hook which seats up to 3" spindles, and two front hooks which seat 2 1/2" spindles and hold 20 to 84-inch reels
- Model 524-MCR housing is ductile iron; models 1022-CRA and 1030-CRA housings are aluminum alloy
- Operating levers (sold separately) are available as follows: model 524-MCR use lever X4712 (1" dia. x 30" long); models 1022-CRA and 1030-CRA use lever X4739 (1 1/4" dia. x 60" long)

Capacity (tons)	Model Number	Product Code	Height (in)*	Raise (inches)	Base (inches)	Rack Size (inches)	Type	Weight (lbs)
5 Top 2 1/2 Toe	524-MCR	00403	23 1/4	14	8 3/4 x 18 3/4	1 1/4 x 1 1/2	Ratchet	67
10 Top 5 Toe	1022-CRA	00405	38	12	9 3/4 x 24	1 5/8 x 1 5/8	Ratchet	84
10 Top 5 Toe	1030-CRA	00407	30	14	---	1 5/8 x 1 5/8	Ratchet	90

\*height includes base



## Trench Brace Fittings and Steel Timber Brace Fittings

Duff-Norton supplies butt ends, screws, nuts and socket butts to be combined with customer's pipe for safe and economical bracing on trench and excavation jobs. Steel timber brace fittings are used for making wooden timbers adjustable to various widths for bracing concrete forms, subways, excavations and trenches.

### Features:

- Tabulated data available on Technical Bulletin MJTB-1 allows Duff-Norton trench braces to be used in compliance with OSHA 29 CFR 1926 Subpart P - Excavations

Model	Trench Braces						Timber Braces	
	C-14	C-15	C-16	C-17	C-18	C-19	C-24	C-31
Prod. Code	01701	01703	01705	01708	01710	01712	01726C	01734
Screw Length (in.)	10	12	14	16	18	18	14	18
Screw Dia (in.)	1-11/32	1-11/32	1-11/32	1-11/32	1-11/32	1-7/8	1-11/32	1-7/8
Max Recommended Screw Extension (in.)/ Timber Cap (Tim. Br.)	6	7	8	9	10	10	4 x 4	8 x 8
Weight (lbs)	11	12	13	14	14	31	12	33
Model w/o Socket Butt/Timber Cap Only	C32	C33	C34	C35	C36	C37	X-671	X-689
Product Code	01714	01716	01718	01720C	01722C	01724	01738	01741

## Air Motor Jacks

Duff-Norton air motor jacks are offered in seven models from 20 ton to 100 ton. These precision built, sturdy, dependable machines employ the time-tested basic screw principle with fool-proof, built-in rotary air motor. Can be synchronized for simultaneous operation of two jacks through use of a "Y" connection. Used for raising and lowering freight cars, diesel locomotives and truck trailers.

### Design and Manufacturing Features:

- Manufactured in compliance with ASME B30.1
- Easy to move and spot with long transport handle and collapsible spotting handles
- Up or down hand throttle control well guarded. Position of lever clearly indicates direction up or down
- Sturdy shell with large diameter base for stability under top-heavy loads
- 10" diameter, 2 1/2" face solid rubber-tire roller bearing wheels assure easy portability
- Transport handle folds down and out of the way when jack is in use
- Automatic shut off stops the motor when the lifting standard reaches the safe limit of its raised or lowered position
- Screen in air hose connection easily removed for cleaning
- Easy to lubricate through two convenient plugs in jack and one in air motor
- Built in muffler
- Ball bearing thrust and radial mountings throughout for easy action and long life

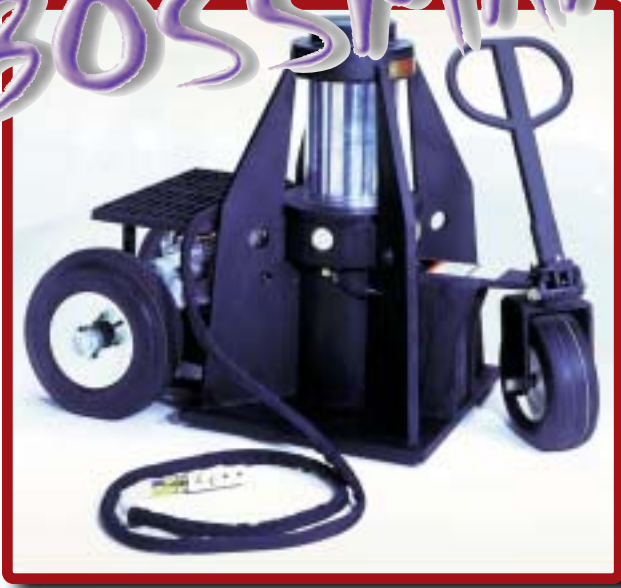
### Safety Features:

- A brake is provided on 50 and 100 ton jacks to prevent accidental lowering
- The load is lowered entirely, as well as raised, by air motor so that the lowering speed is always under constant control, preventing slipping or sudden dropping of the load
- The design of the jack prevents lowering or creeping under load in case of air failure due to disconnection or injury to the hose
- Jacks are internally keyed to prevent standard from turning
- Broad, sturdy base for stability
- Serrated forged steel top



Capacity (tons)	Model Number	Product Code	Height (inches)	Raise (in.)	Base Dia. (in.)	Head Dia. (inches)	Type of Motor	Weight (lbs)
20	228R	00105	28	18	12	4	Rotary	240
35	326R	00106	26	14 3/8	14	4	Rotary	275
50	528CMJ	00141C	28	17	14	5	Rotary	394
50	536CMJ	00142C	36	25	15	5	Rotary	425
75 lifting, 100 sustaining	126CMJ	00143C	26	13 3/4	13	6 1/8	Rotary	448
75 lifting, 100 sustaining	132CMJ	00144	32	18	13	6 1/8	Rotary	480
75 lifting, 100 sustaining	144CMJ	00145	44	30	18	6 1/8	Rotary	530

# BOSSMAN<sup>TM</sup>



## 100 and 150 Ton Capacity Bossman Jacks

Duff-Norton's 100 and 150 ton capacity Bossman jacks are designed for jacking mining and construction equipment for maintenance. Sturdy steel frame. Three large pneumatic tires and swiveling handle for easy maneuverability. Pneumatic tires flatten under load to allow base to contact floor.

### Features:

- Patented locking mechanism: spring-activated locking shoes engage while lifting and lock into place every 1/2" to eliminate the need for blocking. When lowering, air pressure allows the locking shoes to disengage until the operator releases the lowering button.
- Remote operation capability allows the operator to use the jack from a distance
- Air/hydraulic pump operates with 50 CFM at 90 PSI air pressure to lift full load
- Overall length is 52" – large base provides stability under load

- Extensions available for increasing closed height of 100-ton models as follows: 6" extension model BJ100-70; 9" extension model BJ100-71; 12" extension model BJ100-72; set of all three extensions model BJ100-6912. Special extensions available - consult Duff-Norton.
- Extensions available for increasing closed height of 150-ton models as follows: 6" extension model BJ150-70; 9" extension model BJ150-71; 12" extension model BJ150-72; set of all three extensions model BJ150-6912. Special extensions available - consult Duff-Norton.

Capacity (tons)	Model Number	Product Code	Closed Height (in.)	Raise (in.)	Extended Height (in.)	Lifting Speed Full Load	Lifting Speed No Load	Weight (lbs)
100	BJ10026	10026C	26	11.5	37.5	2 1/2"/min	20"/min	930
100	BJ10036	10036	36	14.5	50.5	2 1/2"/min	20"/min	1100
150	BJ15026	15026A	26	11.5	37.5	1 3/4"/min	14"/min	1000
150	BJ15036	15036A	36	14.5	50.5	1 3/4"/min	14"/min	1200
150	BJ15044	15044	44	30	74.0	1 3/4"/min	14"/min	1550

## 50 Ton Capacity Bossman Jacks

A Bossman jack for the railroad industry! Same sturdy construction as the 100 and 150 ton jacks in a compact two-wheel design.

### Design and Manufacturing Features:

- Patented locking mechanism: spring-activated locking shoes engage while lifting and lock into place every 3/8" to eliminate the need for blocking. When lowering, air pressure allows the locking shoes to disengage until the operator releases the lowering button.
- Remote operation capability allows the operator to use the jack from a distance
- Air/hydraulic pump operates with 50 CFM at 90 PSI air pressure to lift full load
- Overall length is 26.5" – large base provides stability under load
- Extensions available for increasing closed height as follows: 6" extension model BJ50-70; 9" extension model BJ50-71; 12" extension model BJ50-72; set of all three extensions model BJ50-6912. Special extensions available - consult Duff-Norton.



Capacity (tons)	Model Number	Product Code	Closed Height (in.)	Raise (in.)	Extended Height (in.)	Lifting Speed Full Load	Lifting Speed No Load	Weight (lbs)
50	BJ5026	5026C	26	13	39	2 1/2"/min	29"/min	400



## Little Devils Hydraulic Toe Jacks

Little Devils hydraulic toe jacks are offered in 2 ton, 5 ton and 10 ton capacities. This line of hydraulic toe jacks is designed for lifting heavy machinery and cargo in plant maintenance, shipbuilding, mining and railroad applications. Same capacity rating for top or toe lifting. Operating levers included.



### Features:

- Lever socket swivels 180° for operation in any direction
- Height of toe allows easier access to low height applications
- Internal springs allow for self-retraction of jack under no load (5 and 10 ton models only)
- Ergonomic lifting handle design allows for ease of transport
- Safety relief valve prevents jacking of overloads
- Heavy duty, welded steel construction
- Lever bar included
- Manufactured in compliance with ASME B30.1
- May be used vertically, inclined or horizontally. When used horizontally, stroke is decreased to 70%



Model	Capacity US tons	Minimum Toe Height		Hydraulic Travel		Maximum Toe Height		Toe Length x Width	
		mm	in	mm	in	mm	in	mm	in
HTJ0209	2	16	0.63	113	4.4	129	5.1	50 x 50	2.0 x 2.0
HTJ512	5	25	0.98	120	4.7	145	5.7	57 x 75	2.2 x 3.0
HTJ1013	10	28	1.10	145	5.7	173	6.8	60 x 85	2.4 x 3.3

Model	Min. Head Height		Max. Head Height		Head Length x Width		Base Size Width x Length		Lever Length		Oil Volume		Weight	
	mm	in	mm	in	mm	in	mm	in	mm	in	cu cm	cu in	kg	lbs
HTJ0209	235	9.3	348	13.7	85 x 50	3.3 x 2.0	125 x 178	4.9 x 7.0	ø19 x 380	ø.75 x 15.0	110	17	8.1	18
HTJ512	293	11.5	413	16.3	117 x 75	4.6 x 3.0	182 x 270	7.2 x 10.6	ø22 x 415	ø.85 x 16.3	337	21	23.5	52
HTJ1013	325	12.8	470	18.5	145 x 85	5.7 x 3.3	225 x 286	8.9 x 11.3	ø28 x 548	ø1.07 x 21.6	500	31	33.4	73

## Little Devils Mini Jacks

Little Devils mini jacks are offered in three capacities: 10 ton, 20 ton and 50 ton. These compact, powerful jacks are designed to be used in low-height applications. Lever bar is pumped side to side rather than up and down. Positive stops prevent over extension of the lifting ram.

### Features:

- Durable steel ram is treated to prevent corrosion and rust
- Operating lever is pumped side to side to accommodate low height applications
- Housing cylinder and base are welded for greater strength and sealing
- Lever bar included
- Manufactured in compliance with ASME B30.1
- May be used vertically, inclined or horizontally. When used horizontally, stroke is decreased to 70%



Model	Cap. US tons	Closed Height		Hydraulic Travel		Maximum Height		Head Diameter		Base Diameter		Lever Length		Oil Volume		Weight	
		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	cu cm	cu in	kg	lbs
HJ1005	10	120	4.72	30	1.2	150	5.9	42	1.65	110	4.3	ø18 x 440	ø.71 x 17.3	77	4.7	5.5	12
HJ2005	20	130	5.12	30	1.2	160	6.3	53	2.09	120	4.7	ø22 x 548	ø.85 x 21.6	110	6.7	8.7	19
HJ5006	50	140	5.51	30	1.2	170	6.7	80	3.15	178	7	ø27 x 1000	ø.85 x 39.4	370	23	19	42



## Little Devils Bottle Jacks

Little Devils bottle jacks are offered in capacities from 2 tons to 100 tons. The wide range of available closed heights makes them suitable for use in a broad range of industrial applications.

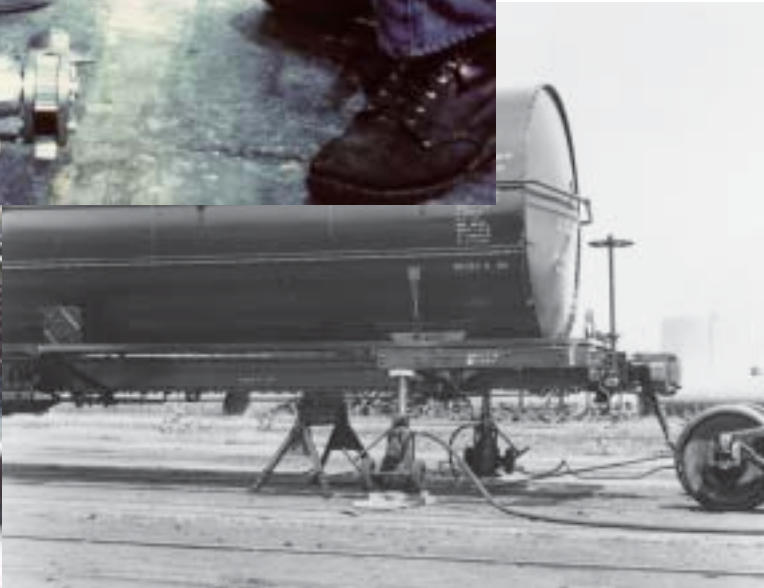
### Features:

- Standard height and low height models
- Can be used both indoors and outdoors
- Lightweight and durable
- Unique base forging method increases resistance to high pressure and offers a high degree of durability
- Heavy duty, welded steel construction
- Lever bar included
- Manufactured in compliance with ASME B30.1
- May be used vertically, inclined or horizontally. When used horizontally, stroke is decreased to 70%

Model	Cap. US tons	Closed Height		Hydraulic Travel		Extension Screw Adjustment		Maximum Height		Head Size		
		mm	in	mm	in	mm	in	mm	in	mm	in	
Standard Type	HJ0206	2	150	5.9	85	3.3	50	2.0	285	11.2	ø25	ø.98
	HJ0207	2	180	7.1	115	4.5	50	2.0	345	13.6	ø25	ø.98
	HJ0508	5	200	7.9	120	4.7	70	2.8	390	15.4	35X36.5	1.38X1.44
	HJ1009	10	240	9.5	150	5.9	80	3.1	470	18.5	45X47	1.77X1.85
	HJ1510	15	265	10.4	165	6.5	80	3.1	510	20.1	51X53	2.00X2.09
	HJ2011	20	270	10.6	160	6.3	—	—	430	16.9	ø52	ø2.05
	HJ5012	50	305	12.0	170	6.7	—	—	475	18.7	ø80	ø3.15
HJ10012	100	305	12.0	145	5.7	—	—	450	17.7	ø125	ø4.92	
Short Type	HJ1007	10	170	6.7	95	3.7	75	3.0	340	13.4	45X47	1.77X1.85
	HJ1507	15	170	6.7	90	3.5	70	2.8	330	13.0	51X53	2.00X2.09
	HJ2007	20	180	7.1	85	3.3	40	1.6	305	12.0	56.5X58	2.22X2.28
	HJ3007	30	180	7.1	80	3.1	—	—	260	10.2	ø61	ø2.40
	HJ3011	30	280	11.0	160	6.3	—	—	440	17.3	ø61	ø2.40

Model	Base Size		Lever Length		Oil Volume		Weight		
	mm	in	mm	in	mm	in	kg	lbs	
Standard Type	HJ0206	110 x 65	4.3 x 2.6	ø19 x 380	ø.75 x 15.0	40	2.4	2.4	6
	HJ0207	110 x 65	4.3 x 2.6	ø19 x 380	ø.75 x 15.0	50	3.1	2.4	6
	HJ0508	142 x 82	5.6 x 3.2	ø19 x 380	ø.75 x 15.0	150	9.1	4.6	10
	HJ1009	166 x 106	6.5 x 4.2	ø22 x 415	ø.85 x 16.3	337	21	7.9	18
	HJ1510	180 x 118	7.1 x 4.6	ø22 x 415	ø.85 x 16.3	540	33	10.4	23
	HJ2011	182 x 128	7.2 x 5.0	ø28 x 548	ø1.07 x 21.6	490	30	12.1	27
	HJ5012	237 x 188	9.3 x 7.4	ø28 x 1000	ø1.07 x 39.4	1340	82	37.1	82
HJ10012	318 x 265	12.5 x 10.4	ø28 x 1000	ø1.07 x 39.4	2940	179	90.7	200	
Short Type	HJ1007	166 x 106	6.5 x 4.2	ø22 x 415	ø.85 x 16.3	226	14	6.4	14
	HJ1507	180 x 118	7.1 x 4.6	ø22 x 415	ø.85 x 16.3	320	20	8.0	18
	HJ2007	182 x 128	7.2 x 5.0	ø28 x 548	ø1.07 x 21.6	250	15	10.1	22
	HJ3007	192 x 142	7.6 x 5.6	ø28 x 548	ø1.07 x 21.6	380	23	14.0	31
	HJ3011	200 x 142	7.9 x 5.6	ø28 x 548	ø1.07 x 21.6	670	41	18.9	42

**Applications**





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**Jacks**

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