



OPERATION MANUAL

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RentLGH.com

SERIES K6U, K6UA, K6UL, K6UL36, K6UL48 AND K6UAL SINGLE DRUM UTILITY® WINCHES

Form P5869
Edition 8
February, 1981

WARNING

***These Winches are not to be used
for lifting or lowering people***

Always operate and maintain this Winch in accordance with American National Standards Institute Safety Code (ANSI B30.7) and any other applicable safety codes and regulations.

FOR TOP PERFORMANCE AND MAXIMUM DURABILITY OF PARTS, OPERATE THIS WINCH AT 90 psig (6.2 bar/620 kPa) AIR PRESSURE WITH 1-1/2" (38 mm) DIAMETER HOSE.

OPERATING PRACTICES

The two most important aspects of Winch operation are: (1) Allow only qualified people to operate a Winch and (2) Subject each Winch to a regular inspection and maintenance procedure.

A qualified operator must be physically competent. He must have no health condition which might affect his ability to react, and he must have good hearing, vision and depth perception. The qualified Winch operator must be carefully instructed in his duties and must understand the operation of the Winch, including a study of the manufacturer's literature. He must thoroughly understand proper methods of hitching loads. He should have a good attitude regarding safety and should refuse to operate under unsafe conditions.

Regular inspection procedures should be set up, rigidly adhered to and recorded by or under direction of a qualified person. On Winches in continuous service, inspection should be made at the beginning of each shift. The items to be checked include, but are not limited to:

- a. **LUBRICATION:** See lubrication instructions on Page 3.
- b. **BRAKES:** Visually check for proper adjustment.
Lift a capacity or near capacity load a few inches off the floor and check ability of braking system to stop and hold the load without excessive drift.
- c. **WIRE ROPE AND HOOKS:** Visually inspect the wire rope. Replace it **AT ONCE** if there is indication of fraying, or if it is crushed, cut or otherwise damaged. Follow cable manufacturer's recommended practice for proper use and inspection of wire rope.
Hooks should be checked for wear, increase in throat opening, and bending.
- d. **CONTROLS:** See that controls function properly and return to neutral when released.
- e. **GENERAL:** Check to see that mounting fastenings are secure, unworn and undamaged. Be alert for unusual visual or audible signs which could indicate a defect. Do not operate the Winch until the defect has been determined and corrected.
Periodically, depending on the severity of the service:
 - a. Inspect Brake and Locking Dog components for wear or damage.
 - b. Check all bolts or fasteners.
 - c. Inspect the Winch structure for damage.

Notice: The use of other than genuine Ingersoll-Rand replacement parts may result in decreased tool performance and increased maintenance, and may, at the Company's option, invalidate all warranties.

Refer All Communications to the Nearest
Ingersoll-Rand Office or Distributor.

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INGERSOLL-RAND®
AIR HOISTS & WINCHES

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OPERATING INSTRUCTIONS

1. Read the manufacturer's instructions before operating the Winch.
2. Never lift a load greater than the rated capacity of the Winch.
3. Never use the Winch rope as a sling.
4. Always stand clear of the load.
5. Never use the Winch for lifting or lowering people, and never stand on a suspended load.
6. Never carry loads over people.
7. Before each shift, check the Winch for wear or damage. Check brakes, locking dog, etc.
8. Periodically inspect the Winch thoroughly and replace worn or damaged parts.
9. Follow the lubrication instructions.
10. Do not disengage clutch with a load on the Winch. Be sure clutch is fully engaged before operating Winch.
11. Do not "side pull" or "yard".
12. Always rig the Winch properly and carefully.
13. Never operate a Winch with twisted, kinked or damaged wire rope.
14. Be sure cable winds properly on drum.
15. Ease the slack out of the wire rope and sling when starting a lift. Do not jerk the load.
16. Be certain there are no objects in the way of a load or hook when operating the Winch.
17. Be certain the air supply is shut off before performing maintenance work on the Winch.
18. Shut off air supply while Winch is unattended.
19. Properly secure the Winch before leaving it unattended.
20. Be certain the load is properly seated in the saddle of the hook. Do not tipload the hook as this leads to spreading and eventual failure of the hook.
21. Do not allow unqualified personnel to operate a Winch.
22. Do not swing a suspended load.
23. Do not operate a Winch if you are not physically fit to do so.
24. Do not do anything you believe may be unsafe.
25. Do not use the Winch rope as a ground for welding. Do not attach a welding electrode to a Winch or sling chain.
26. Do not divert your attention from the load while operating a Winch.
27. Engage locking dog before leaving load suspended.
28. Do not engage locking dog while drum is in operation.
29. Do not leave a load suspended for any extended period-- never unattended.
30. Never splice a sling chain by inserting a bolt between links.
31. Do not force a chain or hook into place by hammering. Do not insert the point of the hook into a chain link.
32. Do not expose the sling chain to freezing temperatures, and do not apply sudden loads to a cold chain.

LUBRICATION

Warning: Lubricate the motor before using the Winch. To avoid leakage during shipment, the oil was drained from the motor. A quantity of oil sufficient for one filling is contained in the can packed with the Winch. Before using the Winch, make certain both Drain Plugs (2) are securely threaded into place. Unscrew the Vent Cap (3) and pour the entire contents of the can (3 quarts, 2839 mL) into the opening in the top of the Motor Case (1).

Motor Lubrication

Check oil daily and maintain level with opening in the side of the Motor Case.

When the Winch is subjected to temperatures above freezing: After the Winch has been idle for several hours or overnight, loosen the Drain Plug (2) located at the bottom of the Motor Case (1) and allow the accumulated water to drain out. After draining the water, tighten the Plug in the bottom and remove a similar Plug on the side of the Motor Case. Unscrew the Vent Cap (3) and pour a sufficient quantity of the recommended oil through this opening to bring the oil level up to the side opening. Replace the Plug and Vent Cap.

When the Winch is subjected to freezing temperatures: Allow the Winch to remain idle long enough for the water content in the Motor Case (1) to separate from the oil, but not long enough for it to freeze. Drain the water and replenish the oil as above. Should this procedure be impractical, drain the entire contents from the Motor Case immediately after operation ceases, and pour the oil back into the Motor Case before resuming operation. If not drained, a sufficient quantity of water will eventually accumulate so that the Oil Splasher (30) will freeze fast.

For temperatures 30° F to 80° F (-1° C to 26° C), use Ingersoll-Rand Medium Oil No. 50 or SAE 20 or 20W motor oil.

For temperatures below 30° F (-1° C), use SAE 10 or 10W motor oil.

For temperatures above 80° F (26° C), use SAE 30 motor oil.

Weekly, insert a small quantity of Ingersoll-Rand Light Grease No. 28 or a good quality No. 2 cup grease into the Grease Fittings (38) located in the Valve Chest (37). Two or three strokes from a hand gun are sufficient for each Fitting.

Gearing Lubrication

Every sixty to ninety days, remove the 1-1/4" Pipe Plug (109) from the Gear Case (105) and note if the visible portion of the gears is coated with grease. If the gears appear to lack lubrication, add a sufficient amount of the recommended grease to bring the grease level up to the Grease Plug (111) in the Gear Case Cover (110).

Use Ingersoll-Rand Medium Gear Grease No. 75 or a good quality No. 1 consistency gear grease. Leakage will probably result if gear oil is substituted.

For extremely severe service, or in surrounding temperatures over 120° F (49° C), use Ingersoll-Rand Heavy Gear Grease No. 70, or a good quality No. 2 consistency gear grease.

HOSE AND HOSE CONNECTIONS

Use 1-1/2" (38 mm) hose with a suitable hose fitting (1-1/2" hose to 1-1/4" male pipe) for attaching it to the Valve Chest (37). Smaller hose and fittings will reduce the efficiency of the Winch.

MOUNTING

Mount the Winch so that the axis of the Rope Drum (72) is horizontal, and so that the Vent Cap (3) is not more than 15° off top vertical center.

If the Winch is to be mounted in an inverted position, the Motor Case (1) must be rotated 180° in accordance with the following instructions:

1. Drain the oil.
2. Remove the twelve Motor Case Cap Screws (63).
3. Rotate the Motor Case 180°. The Vent Cap must not be more than 15° off top vertical center.
4. Replace the Cap Screws.
5. Fill with oil.

MAINTENANCE

To adjust the brake, rotate the Brake Adjusting Nut (127). Threading the Nut farther onto the Brake Adjusting Screw (126) tightens the brake; backing the Nut off, loosens the brake.

When replacing a Planet Gear Shaft (76), press the damaged Shaft from the Rope Drum (72) by inserting a suitable rod through the cored hole in the small-seal end of the Rope Drum. Press in the new Shaft, wide-beveled end first, until the trailing face of the Shaft is 2-49/64" from the face of the shaft boss in the Rope Drum.

When installing any needle-type Bearing (75, 79 or 85), **always press on the stamped end of the bearing shell**. Use the proper needle bearing inserting tool listed on Page 9.

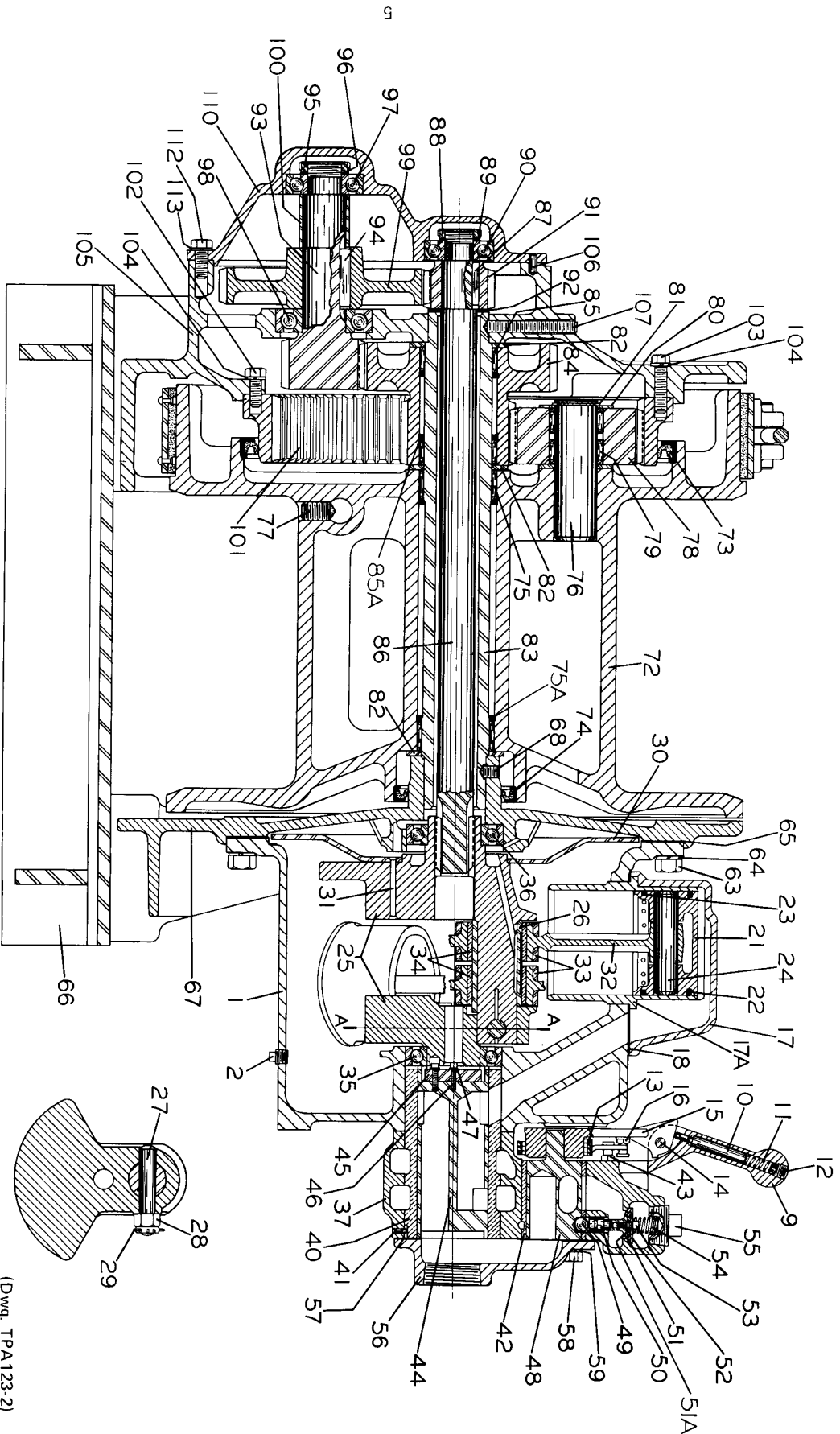
BUSHING REPLACEMENT

Replace a Reverse Valve Bushing (42) or a Rotary Valve Bushing (40) as follows:

1. Remove the Valve Chest Cover Cap Screws (58), Valve Chest Cap Screws (60) and Throttle Valve Cap (55).
2. Withdraw the Throttle Valve (50) and Throttle Ball (49). The Throttle Ball may be lifted out with a quantity of sticky grease on the end of a rod.
3. Withdraw the Reverse Valve (48) and Rotary Valve (44). A bolt can be threaded into the tapped hole in the valve face to serve as a handle. The Reverse Valve is tapped 1/2"-13 thread. The Rotary Valve is tapped 5/8"-11 thread.
4. Thread a No. HU-932 Valve Chest Jack Bolt, or any 5/8"-11 thread bolt having at least 4" of thread, into the tapped hole in the lug on each side of the Valve Chest (37) until the end of the Bolt contacts the Motor Case (1). Tighten each Bolt a fraction of a turn at a time until the Valve Chest is removed from the Motor Case.
5. Support the face of the Valve Chest that contacts the Motor Case and, using an arbor that will clear **the Bushing Keys (41)**, press out the old Bushings.
6. Turn the Valve Chest over so that the face that contacts the Motor Case is up.
7. Align the groove in the new Reverse Valve Bushing with the Bushing Key that protrudes into the small bore of the Valve Chest, and press in the new Bushing until its leading face is flush with the supported face of the Valve Chest.
8. Align the groove in the new Rotary Valve Bushing with the Bushing Key that protrudes into the large bore of the Valve Chest, and press in the new Bushing until its leading face is flush with the supported face of the Valve Chest.
9. Insert the No. 49265 Throttle Valve Stem Reamer or a .627" diameter reamer into the throttle valve chamber and ream the hole through the bushing wall in which the Throttle Valve Ball (49) operates.
10. Check the fit of the Reverse Valve (48) in the Reverse Valve Bushing. If tight, ream the Bushing 2.250". **Caution:** The Reverse Valve is chrome plated; do not lap.
11. Check the fit of the Rotary Valve in the Rotary Valve Bushing. If the Valve is tighter than a good running fit, lap it in with a mild, fine-grain lapping compound whose abrasive agent will break up rapidly. Wash the parts in clean kerosene to remove all trace of the compound. If the Valve is too tight to lap, ream the Bushing 2.875".
12. Align the cam groove on the Reverse Valve with the hole through the wall of the Bushing in which the Throttle Valve Ball operates.
13. Apply a few drops of light oil to the Throttle Valve Ball and to the stem of the Throttle Valve. Insert the Ball, Valve, and Throttle Valve Spring (54) into the valve chamber and retain them with the Throttle Valve Cap (55).
14. Place the Throttle Lever Spring (13) on the Control Arm (15) so that the coil encircles the protruding hub. Rotate the Spring until its lower leg contacts the Throttle Spring Stop Pin (16) which projects from the Control Arm. Grasp the upper leg of the Spring and pull it over the top of the Stop Pin so that the Spring legs are now on opposite sides of the Stop Pin.
15. Install the Throttle Control Arm so that its square socket slides over the square shank of the Reverse Valve, and the Spring legs are on opposite sides of the Stop Pin on the Valve Chest.
16. Align the holes through the Valve Chest with those in the Motor Case (1) and start the protruding end of the Rotary Valve Bushing (40) squarely into the Motor Case. Protect the face of the Valve Chest with a hardwood block and press or drive in the Bushing until the Valve Chest contacts the Motor Case.
17. Insert the Rotary Valve (44) into the Rotary Valve Bushing. Rotate the Valve slowly until the Valve Key Screws (46) located in the end of the Valve engage matching holes in the Crank (25).
18. Apply the Valve Chest Cover (56) and retain it with the Valve Chest Screws (60) and Valve Chest Cover Cap Screws (58).

CRANK ASSEMBLY

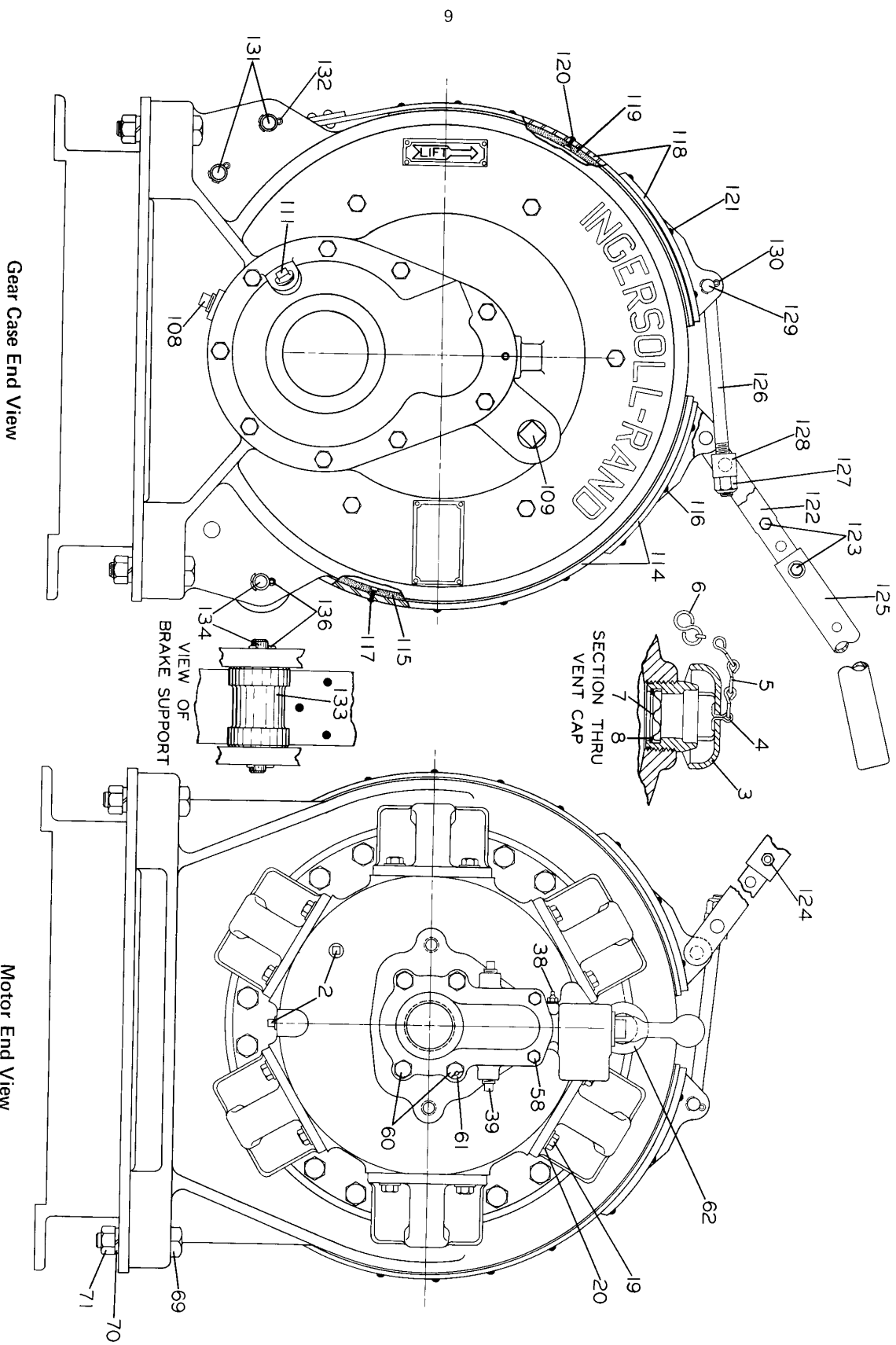
The two sections of the Crank (25) are matched before final machining, and the web of each section is stamped with an identification mark as AA17, CC21, XX19, etc. Only sections bearing identical marking can be used together. If more than one Crank is disassembled at one time, be sure only matched parts are assembled together.



Model K6U or K6UA Single Drum Utility Winch
(Construction Typical of Models K6UL, K6UL36, K6UL48 and K6UAL except for length of Rope Drum)

SECTION A-A

(Dwg. TPA123-2)



PART NUMBER FOR ORDERING

PART NUMBER FOR ORDERING

★	Motor Assembly	K6U-A501	● 34	Connecting Rod Bushing (2).	K6U-511
★ 1	Motor Case.	K6U-501	35	Crank Valve End Bearing.	KU-518
2	Drain Plug (2)	D02-402	● 36	Crank Splined End Bearing	KU-895
3	Vent Cap.	D02-303A		Valve Chest Assembly	K6U-A545
4	Vent Cap Cotter.	D02-893	37	Valve Chest	K6U-545
5	Vent Cap Chain	D02-891	38	Grease Fitting (2).	23-188
6	S-Hook.	D02-421	39	Brake Inlet Plug (2).	D02-402
7	Vent Cap Screen	D02-889	40	Rotary Valve Bushing	K6U-525S
8	Vent Cap Screen Retainer	6CND-233-1/2	41	Bushing Key (2).	HU-538
9	Throttle Lever.	HU-556	42	Reverse Valve Bushing	K6U-945S
10	Throttle Lever Latch	HU-869	43	Throttle Lever Spring Stop Pin	D02-553
● 11	Latch Spring.	HU-567	÷ 44	Rotary Valve	K6U-526
12	Throttle Lever Set Screw.	HU-842	45	Rotary Valve Key.	K6U-527
● 13	Throttle Lever Spring.	K6U-412	46	Rotary Valve Key Screw (2).	4E-638
14	Throttle Lever Pin	HU-870	47	Valve Key Screw Lock Washer (2)	4U-58
*	Throttle Lever Pin Cotter (2) (3/32" x 3/4")	D02-524	48	Reverse Valve Assembly	K6U-A944
15	Throttle Control Arm	K6U-555	*	Reverse Valve O-ring	R18-311
16	Throttle Lever Spring Stop Pin	D02-553	49	Throttle Valve Ball	K6U-941
	Cylinder Assembly (6)	K6U-A505A	50	Throttle Valve.	K6U-940
17	Cylinder Head	K6U-H505A	● 51	Throttle Valve Face.	K6U-259
17A	Cylinder Sleeve	K6U-L505A	51A	Throttle Valve Face Spacer	K6U-280
● 18	Cylinder Gasket (6).	K6U-507	52	Throttle Valve Face Cap	K6U-257
19	Cylinder Cap Screw (24).	G8-113	53	Valve Face Cap Retaining Screw	G57T-634
20	Cylinder Cap Screw Washer (24)	K6U-504	● 54	Throttle Valve Spring.	D10-275
21	Piston Assembly (6)	K6U-A513A	55	Throttle Valve Cap	K6U-943
● 22	Piston Ring (6)	K6U-337	56	Valve Chest Cover.	K6U-546
● 23	Oil Regulating Piston Ring (6).	K6U-338	● 57	Valve Chest Cover Gasket	K6U-928
24	Piston Wrist Pin (6).	K6U-514	58	Valve Chest Cover Cap Screw (2)	D02-506
	Crank Assembly.	K6U-A516	59	Cover Cap Screw Lock Washer (2)	D02-321
25	Crank.	K6U-516	60	Valve Chest Cap Screw (4).	K6U-548
● 26	Crank Pin Sleeve	K6U-519	61	Valve Chest Cap Screw Lock Washer (4)	D10-322
27	Crank Lock Pin	KU-520	62	Motor Eyebolt.	KU-888
28	Crank Lock Pin Nut	D02-317	63	Motor Case Cap Screw (12).	215-36
29	Crank Lock Pin Cotter (1/8" x 1-1/4")	D02-330	64	Motor Case Cap Screw Lock Washer (12)	A-67
30	Oil Splasher	KU-540	65	Motor Case Gasket	K6U-592
31	Oil Splasher Long Rivet (2)	K6U-541	● 66	Base	
*	Oil Splasher Short Rivet (2)	241-712		for K6U or K6UA.	K6U-564
32	Connecting Rod (6).	K6U-509		for K6UL or K6UAL.	K6UL-564
33	Connecting Rod Ring (4)	K6U-510		for K6UL36	0DR100A36-564
				for K6UL48	0DR100A48-564

* Not illustrated.

★ When ordering a Motor Assembly or Motor Case, the Model of the Winch must be specified on the order to assure that the nameplate on the new Motor Case is stamped with the correct Model symbol.

÷ The Rotary Valve is listed for overwinding Winches only. For underwinding Winches order Rotary Valve No. K6U-526R. If a Winch is to be converted from overwinding to underwinding, the brake parts must be rearranged. Consult the nearest Office.

● To keep downtime to a minimum, it is desirable to have on hand certain repair parts. We recommend that you stock one (pair or set) of each part indicated by a bullet (●) for every four tools in service.

PART NUMBER FOR ORDERING

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67	Motor Mounting Bracket for K6U, K6UA, K6UL or K6UAL . . .	K6U-502	86	Motor Shaft for K6U or K6UA	K6U-316
	for K6UL36	0DR100A36-789		for K6UL or K6UAL	K6UL-316
	for K6UL48	0DR100A48-789		for K6UL36	0DR100A36-316
68	Drum Shaft Short Set Screw	HU-867		for K6UL48	0DR100A48-316
69	Base Bolt (8) for K6U or K6UA	K6U-775	87	Motor Pinion Key	EEG-768
	for K6UL, K6UL36, K6UL48 or K6UAL	K6UL-775	88	Motor Shaft Nut	215-65
70	Base Bolt Lock Washer (8)	D01-692	89	Motor Shaft Nut Lock	215-66
71	Base Bolt Nut (8)	DU-562	90	Motor Shaft Bearing	215-55
72	Rope Drum for K6U or K6UA	K6U-324	91	Motor Shaft Pinion for K6U, K6UL, K6UL36 or K6UL48 .	K6U-319
	for K6UL or K6UAL	K6UL-324		for K6UA or K6UAL	K6UA-319
	for K6UL36	0DR100A36-324	92	Motor Pinion Thrust Washer	K6U-397
	for K6UL48	0DR100A48-324	93	Drive Shaft	K6U-358
• 73	Rope Drum Large Seal	K6U-137	94	Drive Gear Key	23-70
• 74	Rope Drum Small Seal	20-137A	95	Drive Shaft Nut	215-73
• 75	Drum Bearing for K6U, K6UA, K6UL or K6UAL . .	K6U-466	96	Drive Shaft Nut Lock	215-74
	for K6UL36 or K6UL48	0DR100A48-466	• 97	Drive Shaft Outer Bearing	215-63
75A	Bearing Retainer (2)	23-406	• 98	Drive Shaft Inner Bearing	215-41
76	Planet Gear Shaft (3)	K6U-787	99	Drive Gear for K6U, K6UL, K6UL36 or K6UL48 .	K6U-357
77	Rope Set Screw (2)	K6U-381		for K6UA or K6UAL	K6UA-357
78	Planet Gear (3)	K6U-732	100	Drive Gear Spacer	K6U-356
• 79	Planet Gear Bearing (6) (Torrington B-2816 or its equivalent)	K6U-788	101	Ring Gear	K6U-781
80	Planet Gear Spacer (6)	K6U-743	102	Ring Gear Short Cap Screw	215-148
81	Planet Gear Retainer (3)	K6U-362	103	Ring Gear Long Cap Screw (5)	2100-457
82	Drum Thrust Plate (3)	K6U-469	104	Ring Gear Cap Screw Lock Washer (6)	D10-322
83	Drum Shaft for K6U or K6UA	K6U-459	105	Gear Case	K6U-353
	for K6UL or K6UAL	K6UL-459	106	Gear Case Cover Dowel	HU-627
	for K6UL36	0DR100A36-459	107	Drum Shaft Long Set Screw	K6U-868
	for K6UL48	0DR100A48-459	108	Grease Plug	22SR-165
84	Intermediate Gear	K6U-364	109	1-1/4" Pipe Plug	E5UD-947
• 85	Intermediate Gear Bearing (2) (Torrington B-4416 or its equivalent)	K6U-366	110	Gear Case Cover	K6U-352
85A	Bearing Retainer (2)	23-406	111	Grease Plug	22SR-165
			*	Eccentric Shaft Lock Screw	J3-823
			*	Gear Cover Plug	K6U-728
			*	Gear Cover Plug Seal	HU-730
			*	Grease Fitting	23-188

* Not illustrated.

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PART NUMBER FOR ORDERING

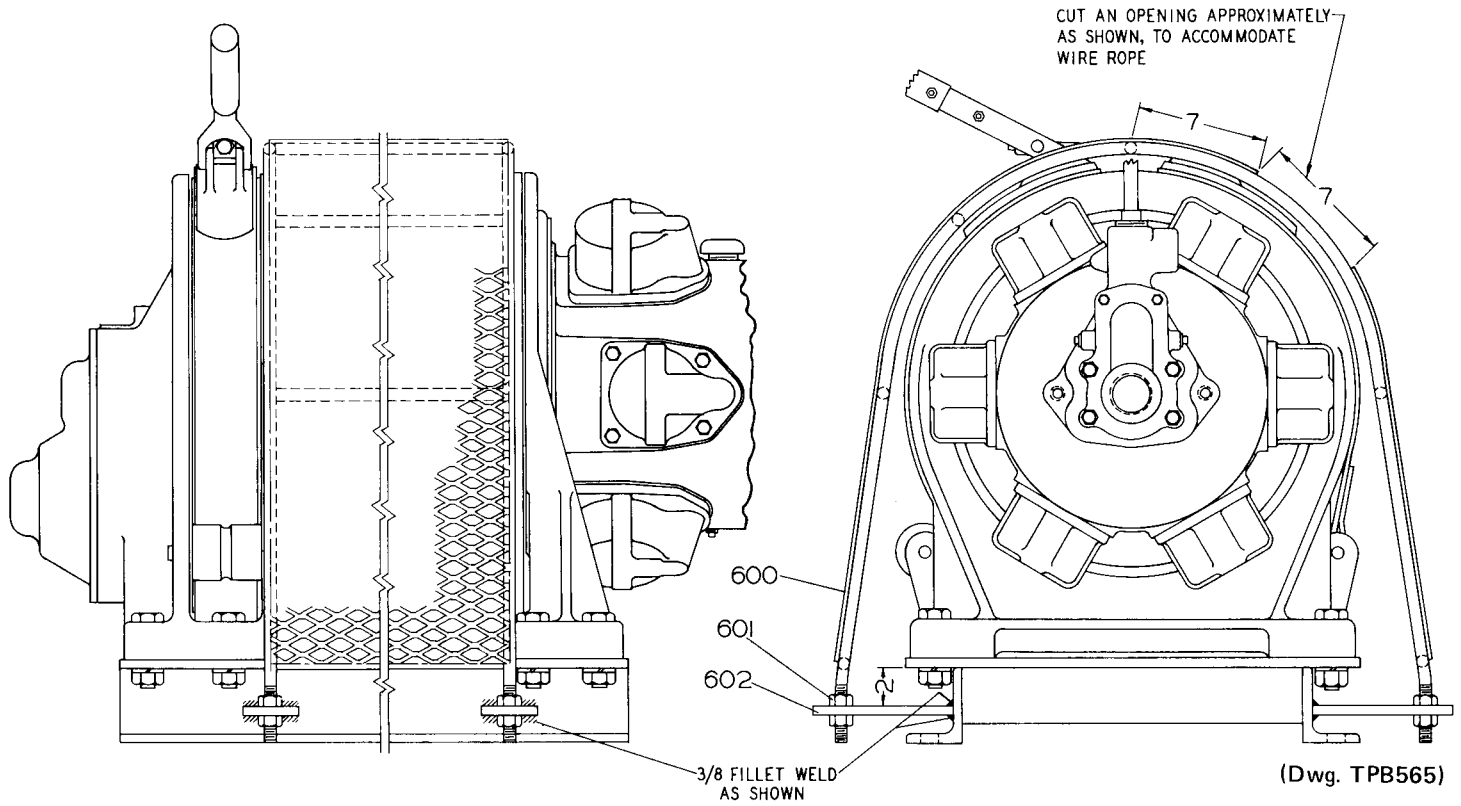
PART NUMBER FOR ORDERING

112	Gear Case Cover Cap Screw (9)	215-148	132	Anchor Pin Cotter (4) (1/8" x 1-1/4")	D02-330
113	Gear Case Cover Cap Screw Lock Washer (9)	D10-322	133	Brake Support	K6U-161A
114	Long Brake Band	K6U-252	134	Brake Support Pin	K6U-206
● 115	Long Brake Lining	K6U-255	136	Brake Support Cotter (2)	D02-330
116	Brake Lining Long Rivet (9)	K6U-157	*	Exhaust Muffler	KU-674
117	Brake Lining Short Rivet (32)	K6U-156	*	Winch Nameplate	DU-301
● 118	Short Brake Band	K6U-152	*	Nameplate Screw (4)	R4K-302
119	Short Brake Lining	K6U-155	*	Air Motor Nameplate	K5W-99
120	Brake Lining Short Rivet (17)	K6U-156	*	Nameplate Screw (6)	R4K-302
121	Brake Lining Long Rivet (9)	K6U-157	*	Caution Plate	TA-147A
122	Brake Lever	231-715	*	Caution Plate Screw (4)	R4K-302
123	Brake Lever Bolt (2)	D10-312	*	Rope Direction Plate	DU-32
124	Brake Lever Bolt Nut (2)	W1171-13	*	Rope Plate Screw (4)	R4K-302
*	Brake Lever Screw	R0H-354	*	Grease Gun	P25-228
125	Brake Lever Extension	231-625	*	Valve Chest Jack Bolt (2 required)	HU-932
126	Brake Adjusting Screw	231-719	*	Piston Ring Compressor	HU-933
127	Brake Adjusting Nut	D01-341A	*	Planet Gear Bearing Inserting Tool	49261
128	Brake Trunnion	215-519	*	Rope Drum Bearing or Intermediate Gear Bearing Inserting Tool	49262
129	Brake Bracket Pin	K6U-147	*	Throttle Valve Stem Reamer	49265
130	Bracket Pin Cotter (2) (1/8" x 1-1/4")	D02-330			
131	Brake Anchor Pin (2)	K6U-206			

* Not illustrated.

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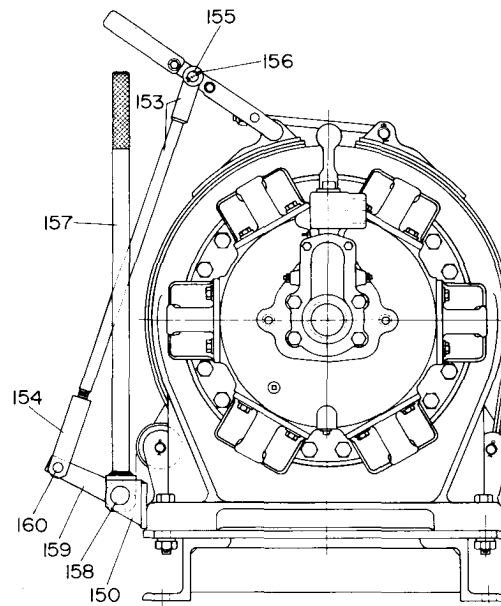
DRUM GUARDS



PART NUMBER FOR ORDERING

600	Drum Guard	
	for K6U or K6UA.	K6U-298
	for K6UL or K6UAL.	K6UL-298
	for K6UL36.	K6UL36-298
	for K6UL48.	K6UL48-298
601	5/8"-11 thd. Nut (8)	K6U-8
602	Plate (4)	
	for K6U, K6UA, K6UL or K6UAL.	K6U-299
	for K6UL36 or K6UL48.	K6UL36-299

BRAKE LINKAGE PARTS



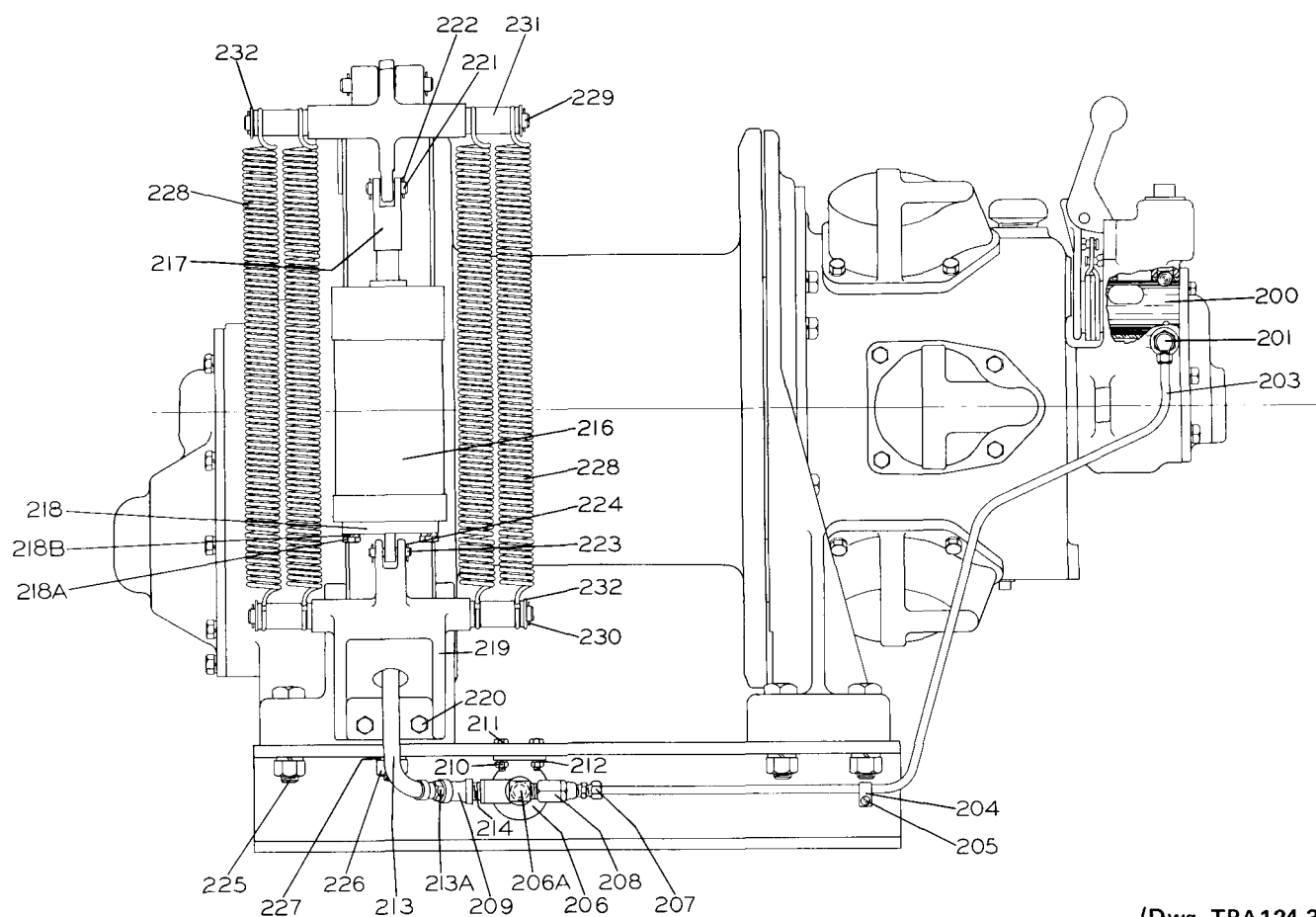
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PART NUMBER FOR ORDERING

150	End Control Bracket (2)	0DR100A36-783
*	Control Bracket Cap Screw (4)	215-13
*	5/8" Lock Washer (4)	A-67
153	Brake Lever Link	0DR100A36-786
154	Brake Yoke	0DR100A36-782
155	Brake Link Pin	0DR100A36-770
156	Link Pin Cotter (2)	D02-330
157	End Control Handle	0DR100A36-123
158	End Control Shaft	
	for K6UL36	0DR100A36-780
	for K6UL48	0DR100A48-780
159	End Control Arm	0DR100A36-784
160	Control Arm Pin	0DR100A36-771
*	Control Shaft Pin (2)	D20-820

* Not illustrated.

AUTOMATIC BRAKE PARTS



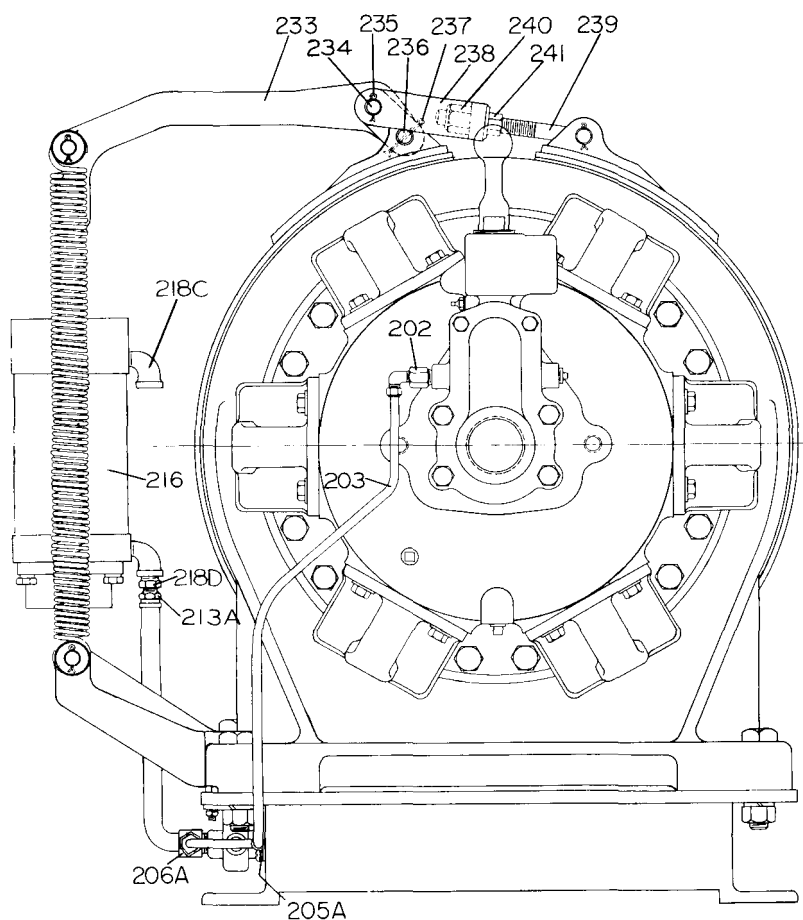
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PART NUMBER FOR ORDERING

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	Automatic Brake Valve Chest Assembly (includes illustrated parts 37, 38 (2), 39, 40, 41 (2), 42, 43, 44, 45, 46 (2), 47(2), 49, 50, 51, 51A, 52, 53, 54, 55, 56, 57, 58 (2), 59 (2), 60 (4) and (4) 61)	K6U-B545
200	Automatic Brake Reverse Valve.	K6U-A744
*	Reverse Valve O-ring	R18-311
201	Brake Pipe Elbow	K4U-400
202	Brake Connection Bushing	HU-547
203	Brake Pipe	
	for K6U or K6UA.	K6U-401
	for K6UL or K6UAL.	K6UL-401
	for K6UL36	K6UL36-401
	for K6UL48	K6UL48-401
204	Brake Pipe Strap	HU-727
205	Brake Pipe Strap Screw	J-376
205A	Strap Screw Lock Washer	L01-67

* Not illustrated.

AUTOMATIC BRAKE PARTS (Cont'd)



(Dwg. TPB154-2)

PART NUMBER FOR ORDERING

	Brake Exhaust Valve Assembly.	K6U-A733
206	Brake Exhaust Valve	HU-733
206A	Exhaust Valve Ell.	HU-745
207	Brake Connection.	K4U-711
208	Brake Air Strainer Assembly.	R0B2-A565
209	1/4" - 45° Elbow	K6U-15
*	Screw (used with Bracket mounted Exhaust Valve) (2)	FMD2-68
210	Exhaust Valve Bolt Nut (2)	D02-428
211	Exhaust Valve Bolt (2)	SP9-11B
212	Valve Bolt Lock Washer (2)	T11-58
213	Exhaust Valve Hose.	K6U-731A
213A	Exhaust Valve Hose Nipple (2)	D01-14
*	Drain Plug	D02-402
214	1/4" Close Nipple.	HUS-908
●★	216 Brake Cylinder	K6U-720
★	217 Brake Cylinder Yoke	K6U-719A
218	Cylinder Base	K6U-717
218A	Cylinder Base Cap Screw (4).	K6U-716
218B	Base Cap Screw Lock Washer (4)	D02-321
218C	3/8" Street Ell (2)	12SR-8
218D	3/8" : 1/4" Reducing Bushing	MC121-82

* Not illustrated.

★ The Brake Cylinder (216) and Brake Cylinder Yoke (217) are new parts. The new Style Brake Cylinder can be identified by square sections at both ends. If ordering a Brake Cylinder Yoke for an old style Brake Cylinder, order by Part Number K6U-719.

● To keep downtime to a minimum, it is desirable to have on hand certain repair parts. We recommend that you stock one (pair or set) of each part indicated by a bullet (●) for every four tools in service.

AUTOMATIC BRAKE PARTS (Cont'd)

PART NUMBER FOR ORDERING

219	Brake Cylinder Bracket	K6U-721
220	Cylinder Bracket Cap Screw (2)	215-36
*	Bracket Cap Screw Lock Washer (2)	A-67
221	Brake Yoke Pin	22-720
222	Brake Yoke Pin Cotter (2) (1/8" x 1-1/4")	D02-330
223	Cylinder Bracket Pin	HU-870
224	Cylinder Bracket Pin Cotter (2) (3/32" x 3/4")	D02-524
225	Cylinder Bracket Bolt for K6U or K6UA	K6UL-775
	for K6UL, K6UAL, K6UL36 or K6UL48	K6UL-722
226	Bracket Bolt Nut	DU-562
227	Bracket Bolt Lock Washer	D01-692
● 228	Brake Spring (4)	K4U-726
229	Brake Spring Pin (2)	K6U-735
230	Brake Spring Pin Cotter (4) (1/8" x 1-1/4")	D02-330
231	Brake Spring Pin Sleeve (4)	K6U-736
232	Brake Spring Pin Washer (4)	24-741
233	Automatic Brake Lever	K6U-718
234	Brake Lever Pin	K6U-149
235	Brake Lever Pin Cotter (2) (1/8" x 1-1/4")	D02-330
236	Brake Bracket Short Pin	K6U-148
237	Brake Bracket Short Pin Cotter (1/8" x 2")	RCS-865
238	Automatic Brake Adjusting Screw Yoke	K6U-759
239	Automatic Brake Adjusting Screw	K6U-758
240	Automatic Brake Adjusting Nut	K6U-760
241	Automatic Brake Adjusting Screw Locknut	D01-305
† *	Clutch Jaw Spacer	K6U-712
† *	Gear Cover Plug	K6U-728
† *	Gear Cover Plug Seal	HU-730

* Not illustrated.

† Refer to paragraph 2 under DISENGAGING CLUTCH PARTS below.

Refer to the part list and sectional view of standard Winch on Pages 5 to 11 for parts shown but not numbered in the sectional view of Automatic Brake.

- To keep downtime to a minimum, it is desirable to have on hand certain repair parts. We recommend that you stock one (pair or set) of each part indicated by a bullet (●) for every four tools in service.

WARNING

DISENGAGING CLUTCH PARTS

It is emphatically recommended that Automatic Brake and Disengaging Clutch features not be used on any Winch used for hoisting or otherwise subjected to an overhauling load. If for any reason, the Disengaging Clutch is left operative in a Winch used under either of the above conditions, it is the responsibility of the user to make provision to prevent accidental operation of the Winch motor with the clutch disengaged. **Operation of the motor with the clutch disengaged while holding a suspended load will allow the load to drop.**

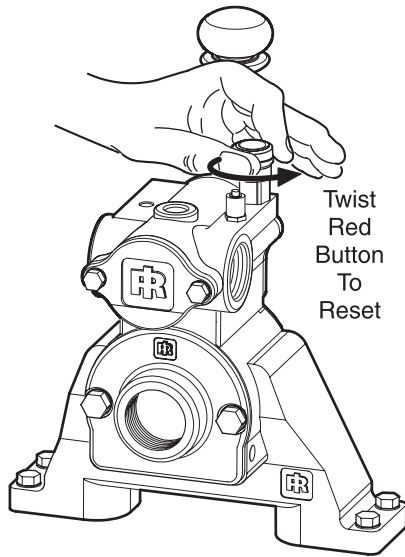
Because the combination of Automatic Brake and Disengaging Clutch is not sanctioned, the three parts marked "†" should be ordered and installed if conversion from manual to automatic brake is made on a Winch equipped with the engaging clutch.

Use the parts as follows:

Install the Clutch Jaw Spacer between the Drive Shaft Outer Bearing (97) and the Clutch Jaw (505) on the Drive Shaft (500) to lock the Clutch Jaw in engagement with the Drive Gear (511).

Remove the Clutch Eccentric Shaft (507) and included parts along with the Clutch Lever (516). Insert the Gear Cover Plug Seal and Plug into the hole in the Gear Case Cover (512) previously occupied by the Eccentric Shaft.

Emergency Stop Reset



(Dwg. MHP2048)

Overload Device (optional feature)

An overload device is available on winches with the emergency shutoff option. Overload device operation is based on differential pressure between air motor inlet and exhaust. The overload device is factory preset to actuate at 150% ($\pm 25\%$) of winch rated capacity. When an overload condition is sensed, the valve poppet closes, to cut off supply air to winch, stopping winch operation. If an overload shutoff occurs, winch load must be reduced. Reset the overload valve and operate winch in payout direction to lower load. Refer to 'Emergency Stop Reset' section on page 13.

Overload Valve Adjustment

Refer to Dwg. MHP2216 on page 14.

5/16 in. or 8 mm open ended wrench required.

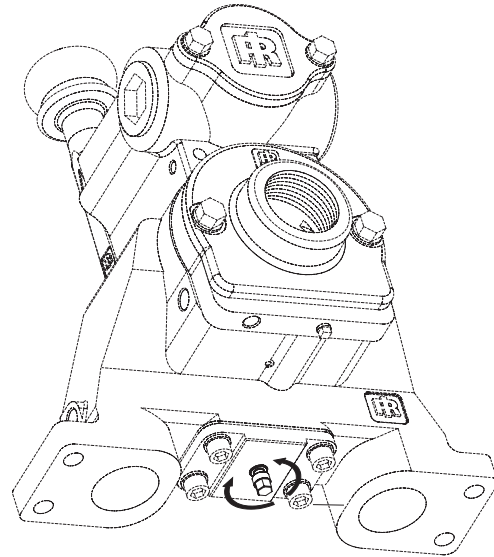
1. Adjust overload valve by turning adjustment screw located at bottom of control valve.
2. Rotating adjustment screw **clockwise will increase** pressure required to activate overload valve.

⚠ WARNING

• This adjustment can cause overload device to **NOT** activate before winch's overload limit is exceeded. This procedure should only be done by personnel trained in testing and servicing this winch.

3. Rotating adjustment screw **counterclockwise will decrease** pressure required to activate overload valve.

Overload Valve Adjustment



(Dwg. MHP2216)

Checking Overload Valve Setting

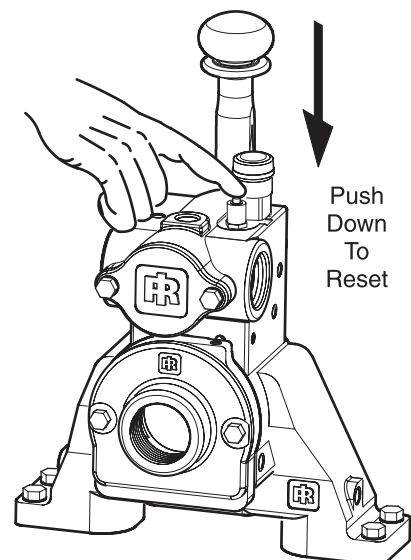
1. Attach load line to a load that is calibrated to maximum load for which winch is rated.
2. Move control lever to haul-in position. If winch does not lift load, adjust the adjustment screw. Refer to 'Overload Valve Adjustment' section on page 14.

Setting the Overload

Attach load line to a load that is calibrated to 150% of winch rated capacity. Shift control lever to haul-in position.

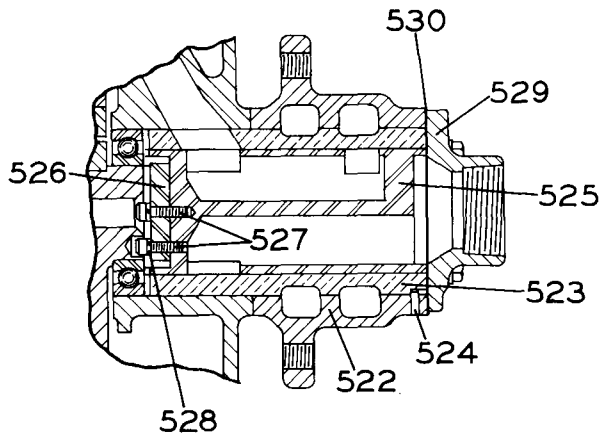
1. If overload valve activates, reset overload valve. Winch is ready for normal operation.
2. If winch lifts load, lower load. Turn adjustment screw counterclockwise in 1/4 turn increments until overload valve activates when control lever is shifted to haul-in position. After each 1/4 turn, retest winch.

Overload Valve Reset

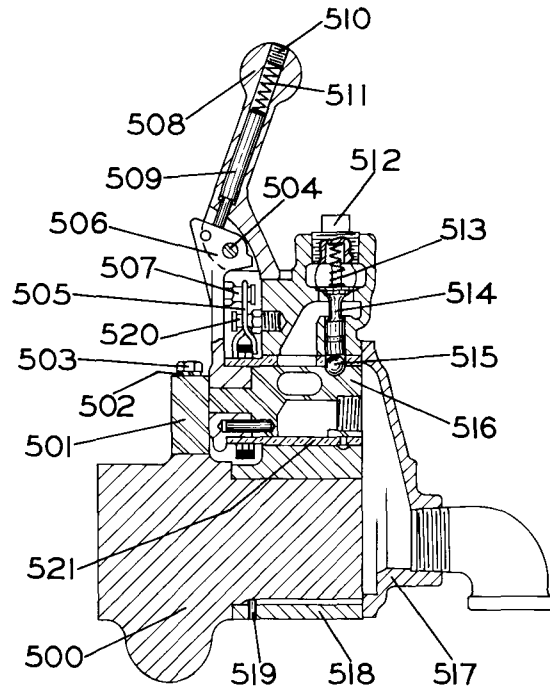


(Dwg. MHP2049)

REMOTE CONTROL PARTS



Remote Control Valve Chest Assembly



Remote Control Block Assembly

(Dwg. TPC156)

PART NUMBER FOR ORDERING

	Remote Control Block Assembly	
	for Winches with Standard Brake	KU-A685
	for Winches with Automatic Brake	KU-B685
500	Remote Control Block	KU-685
501	Control Arm Retainer	HU-687
502	3/8" Lock Washer (2)	D02-321
503	Control Arm Retainer Screw (2)	HU-865
504	Throttle Lever Pin	HU-870
*	Throttle Lever Pin Cotter (2)	D02-524
505	Control Block Throttle Lever Spring	KU-412
506	Control Block Throttle Control Arm	KU-555A
507	Throttle Lever Spring Stop Pin	D02-553
508	Control Block Throttle Lever	HU-556
● 509	Throttle Lever Latch	HU-869
510	Throttle Lever Set Screw	HU-842
● 511	Latch Spring	HU-567
512	Control Block Throttle Valve Cap	KU-943
513	Control Block Throttle Valve Spring	HU-942
514	Control Block Poppet Throttle Valve	KU-940
515	Control Block Throttle Valve Ball	D10-280
516	Control Block Reverse Valve	
	for Winches with Standard Brake	KU-944
	for Winches with Automatic Brake	KU-744
517	Control Block Valve Chest Cover	KU-546A
518	Control Block Valve Chest	KU-876A
519	Bushing Key (2)	HU-538
520	Throttle Lever Spring Stop Pin	D02-553
521	Control Block Reverse Valve Bushing	KU-945S
*	Grease Fitting (2)	23-188
*	Brake Inlet Plug (2)	D02-402

* Not illustrated.

● To keep downtime to a minimum, it is desirable to have on hand certain repair parts. We recommend that you stock one (pair or set) of each part indicated by a bullet (●) for every four tools in service.

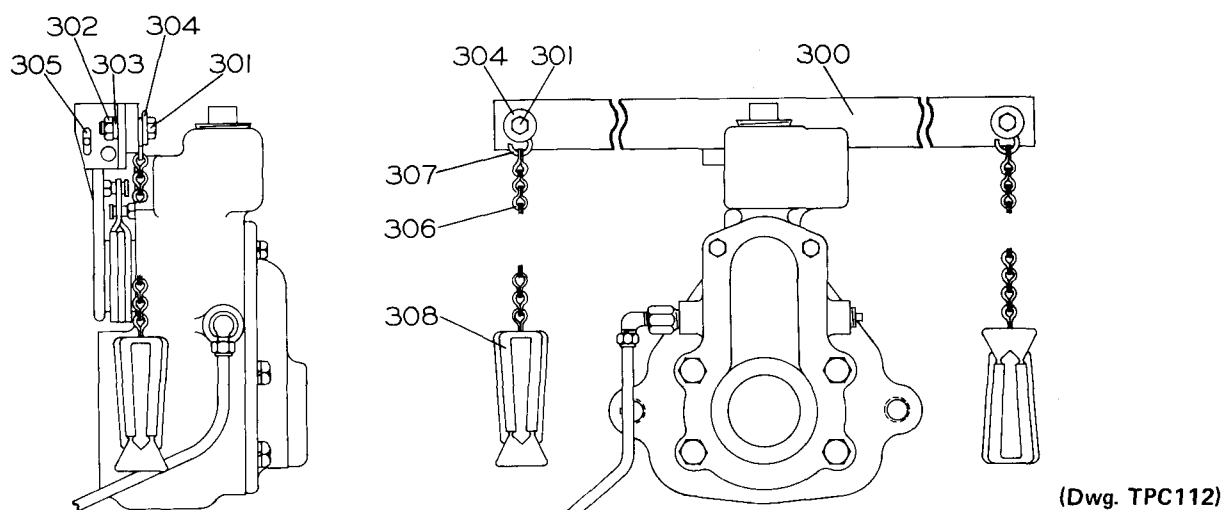
REMOTE CONTROL PARTS (Cont'd)

PART NUMBER FOR ORDERING

	Remote Control Valve Chest Assembly	K6U-A686
522	Remote Control Valve Chest	K6M-545
523	Rotary Valve Bushing	K6U-525S
524	Bushing Key	HU-538
525	Rotary Valve	K6U-526
526	Rotary Valve Key	K6U-527
527	Rotary Valve Key Screw (2)	4E-638
528	Valve Key Screw Lock Washer (2)	4U-58
529	Remote Control Valve Chest Cover	K6M-546
● 530	Remote Control Valve Chest Cover Gasket	K6M-928

- To keep downtime to a minimum, it is desirable to have on hand certain repair parts. We recommend that you stock one (pair or set) of each part indicated by a bullet (●) for every four tools in service.

PULL CHAIN THROTTLE PARTS



PART NUMBER FOR ORDERING

300	Pull Chain Throttle Lever	HU-559
301	Throttle Chain Bolt (2)	D02-312
302	Throttle Chain Bolt Nut (2)	D02-418
303	3/8" Lock Washer (2)	D02-321
304	3/8" Plain Washer (2)	302-419
305	Throttle Lever Cotter (1/4" x 1-3/4")	215-124
306	Throttle Lever Chain (2) (length as specified)	DU-413
307	S-Hook (4)	D01-221
308	Throttle Handle (2)	MR-415

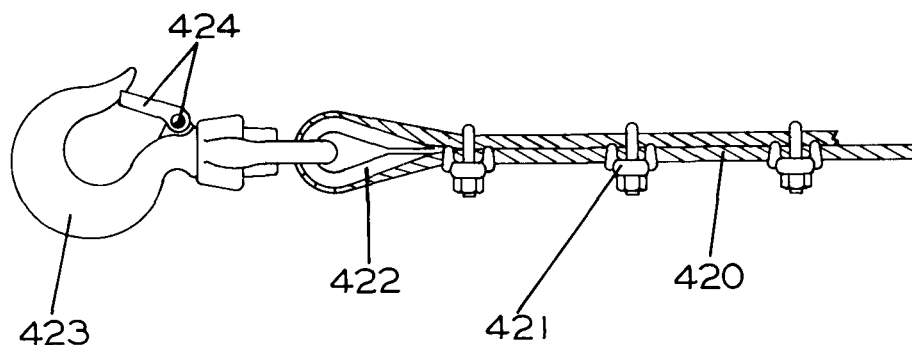
AIR STRAINER ASSEMBLY

PART NUMBER FOR ORDERING

400	Air Strainer Assembly	K4U-A267AT
401	Air Strainer Screen	K4U-61AT
403	Air Strainer Plug	22SR-165
404	Air Strainer Cap	K4U-268AT
*	Air Strainer Nipple (1-1/4" x 2" long)	KKM-286

* Not illustrated.

WIRE ROPE AND FITTINGS



(Dwg. TPD121-1)

PART NUMBER FOR ORDERING

		5/8" Wire Rope	3/4" Wire Rope
420	Wire Rope (length as specified)	235-372	275-372
	Wire Rope Fitting Assembly	K4U-AS601-5/8	K6U-AS601
421	Rope Clamp (3)	235-375	275-375
422	Rope Thimble	235-602	275-602
423	Swivel Hook	K6U-S601	K6U-S601
424	Hook Latch Kit (individual parts not sold separately)	D04-S4055	D04-S4055

DRUM CAPACITIES

MODEL	RECOMMENDED WORKING CAPACITY OF ROPE DRUM	
	5/8" Wire Rope - Feet	3/4" Wire Rope - Feet
K6U	600	420
K6UA	600	420
K6UL	1200	840
K6UAL	1200	840
K6UL36	1850	1285
K6UL48	2470	1710

MUFFLER EQUIPMENT

PART NUMBER FOR ORDERING

Exhaust Muffler.	KU-674
Muffler Nipple (2" x 2-1/2" long pipe nipple).	K6U-675
Reducing Coupling	K6U-677

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