

OPERATION AND MAINTENANCE MANUAL

for

35UWC441	35UWC441RC
35UWC591	35UWC591RC
35UWC442	35UWC442RC
35UWC592	35UWC592RC
35UWC443	35UWC443RC
35UWC444	35UWC444RC
35UWC593	35UWC593RC

Form P6362

Edition 3

March, 1983

POPEYE[®] JUNIOR WINCHES

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 2" (51 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.

(Continued on page 3.)

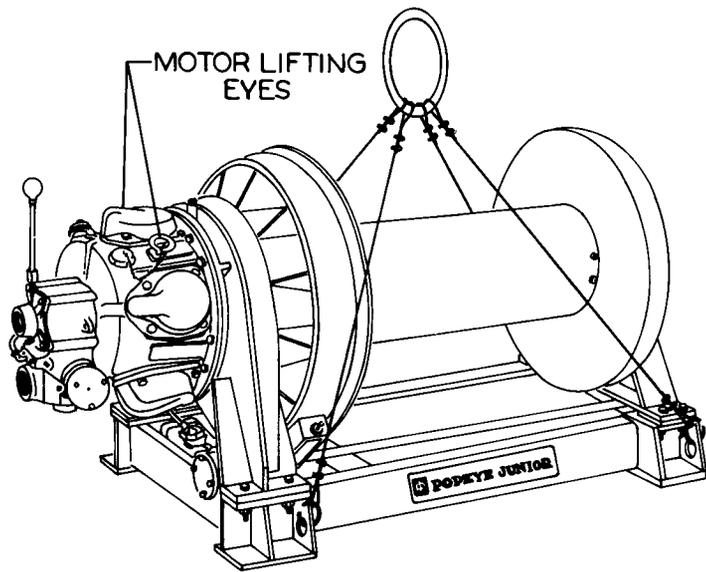
Notice: The use of other than genuine Ingersoll-Rand replacement parts may result in decreased Winch performance and increased maintenance, and may, at the Company's option, invalidate all warranties.

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

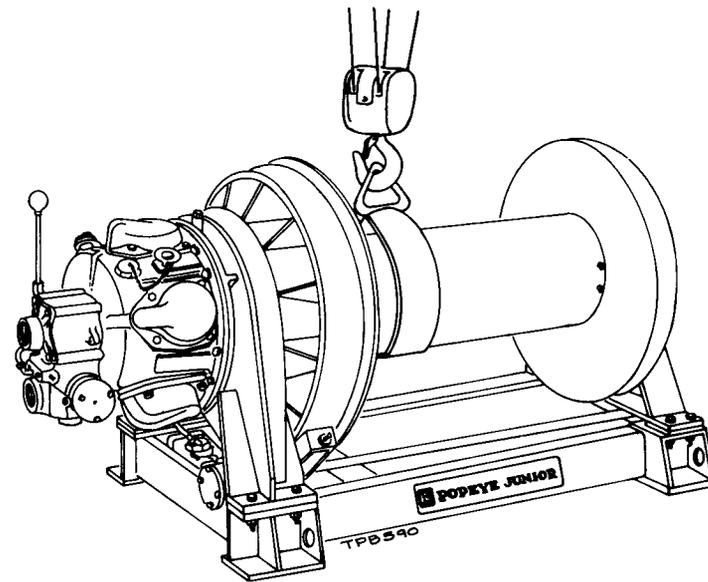
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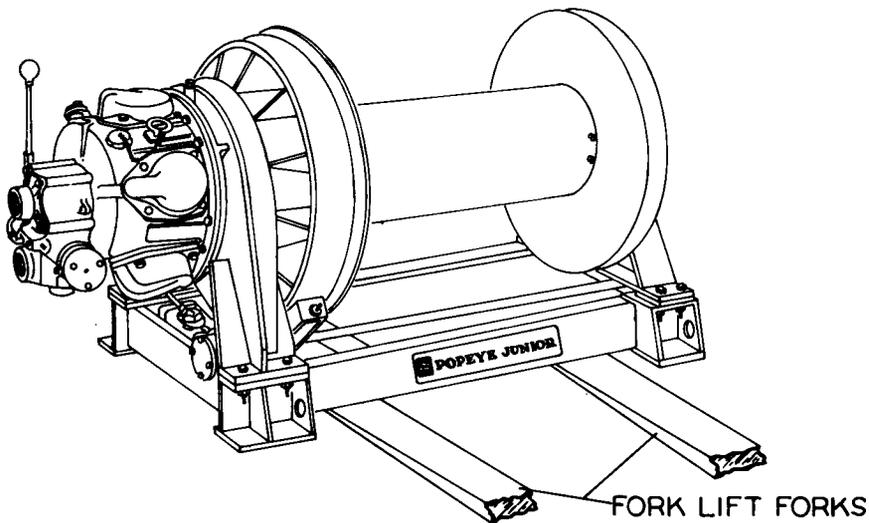
INGERSOLL-RAND[®]
AIR WINCHES



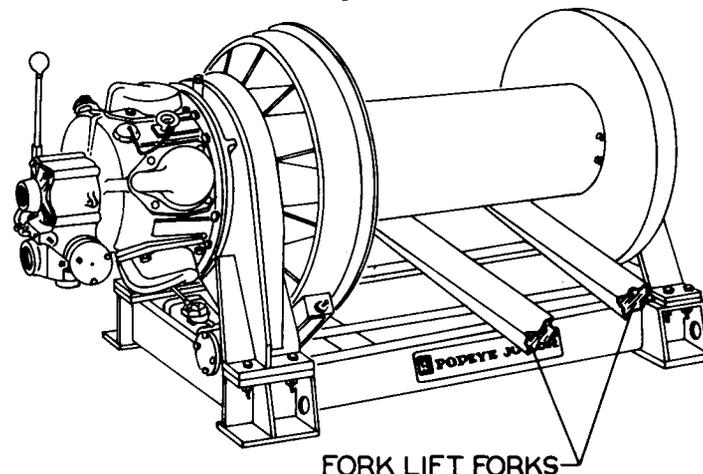
"Four-Point" Lifting Method Utilizing Existing Lifting Eyes



Lifting Method Utilizing Lifting Harness And Overhead Hoist
 Harness Should Be Positioned As Close To The Front Drum Flange As Possible



Lifting Method Utilizing A Fork Lift With Forks Beneath Winch Base
 Extreme Care Should Be Taken To Avoid Damaging Brake Parts Located Near This Lifting Area



Lifting Method Utilizing A Fork Lift With Forks Beneath Winch Drum
 Winch Should Be Balanced on Forks Before Moving

(Dwg. TPB590)

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 4.
- 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. See Brake Tension-Torsion Bar Adjustment instructions on page 5.
- 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.

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 tiplod 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 and Motor Bracket (73) before operating the Winch. To avoid leakage during shipment all oil was drained from the Motor and Motor Bracket. A sufficient quantity of oil for filling each unit is packed with the Winch. Make certain the proper lubricant is used for each unit. Make certain the Oil Level Plugs and Drain Plugs (2 and 77) are securely threaded into place. Remove the Vent Cap (5) and pour the entire contents of the can (4 quarts) into the Motor Case (1). Remove the Vent Plug (76) from the Motor Bracket and pour the entire contents of the can (6 quarts) into the opening in the top of the Motor Bracket.

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 (5) and pour a sufficient quantity of the recommended oil through this opening to bring the oil level up to the side opening.

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 (51) will freeze fast.

For temperatures 30° F to 80° F (-1° C to 26.6° 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 (26.6° C), use SAE 30 motor oil.

Lubricate the Drum Bearing (140) and Locking Dog (149) once weekly with Tenneco Anderol^T No. 786, Ingersoll-Rand grease No. 11. Do not use a substitute without the approval of the General Engineering Dept., Ingersoll-Rand Company, Roanoke, Va., 24019. Approximately 3 cc is ample for each fitting.

Gearing Lubrication

Every sixty to ninety days, remove the Plug at the side of the Motor Bracket (73) and check the oil level. If the level is not visible, add a sufficient amount of the recommended lubricant to the Motor Bracket to bring the level to the bottom of the plug hole.

For temperatures above 32° F (0° C), use Texaco Meropa^T No. 3 (AGMA 3EP) or its equivalent.

For temperatures below 32° F (0° C), use Texaco Meropa No. 1 (AGMA 1EP) or its equivalent.

Brake Lubrication

Warning: Lubricate Brake parts before operating the Winch. Apply a coating of the recommended lubricant to each of the following parts before initial operation and after Brake maintenance.

For the Brake Adjusting Screw (174), Brake Band Clevis (172), Brake Pin (180), Brake Crank Bearings (186 and 187), Brake Crank Arm (184) and Cylinder Clevis Pin (208) use Tenneco Anderol No. 786.

For the Crank Link Bushing (192), Brake Cylinder Rod and Cylinder Anchor Pin (204) use Tenneco Anderol No. 786, Ingersoll-Rand grease No. 11.

HOSE AND HOSE CONNECTIONS

Use 2" (51 mm) hose with a suitable hose fitting (2" hose to 2" male pipe for Manual Throttle; 2" hose to 2-1/2" (63.5 mm) male pipe for Remote Control) for attaching it to the Valve Chest (11). Smaller hose and fittings will reduce the efficiency of the Winch.

MOUNTING

Mount the Winch so that the axis of the Rope Drum (130) is horizontal and so that the Cylinder (61) between the two Vent Caps (5) is at top vertical center. The Motor Bracket Vent Plug (76) must not be more than 25° off top vertical center.

MAINTENANCE

Apply the Wire Rope to wind on the Rope Drum in the direction indicated by the instruction plate on the Winch.

Brake Tension—Torsion Bar Adjustment

Caution: Factory adjusted Torsion Bar tension may be in excess of 300 ft-lb. Make certain that a 3/4" drive breaker bar of sufficient length to accommodate this torque is used.

Braking force is adjusted to the rated capacity of the Winch at the factory and does not require adjustment for normal operation. When necessary increase or decrease the brake setting force as follows:

1. Engage the Locking Dog (149) by rotating the Locking Dog Handle (152) until it is released from its detent position.
2. Slowly run the Winch in the down direction until the Locking Dog firmly engages a Rope Drum flange.
3. Apply full throttle in the down direction **while** loosening the Adjusting Screw Lock Nut (175).
4. With full throttle being applied, rotate the Brake Adjusting Screw (174) in a **clockwise** direction as far as possible.
5. Release the throttle. Insert a 3/4" square drive breaker bar into the Torsion Bar Anchor (199) and secure the bar.
6. Loosen and remove the four Torsion Bar Anchor Bolts (200).
7. To increase brake setting force rotate Torsion Bar Anchor in a **clockwise** direction when facing the Torsion Bar Anchor. Rotate in a **counterclockwise** direction to decrease brake setting force.
8. Insert the four Torsion Bar Anchor Bolts and tighten them.
9. With the Locking Dog engaged, apply full throttle in the down direction and rotate the Brake Adjusting Screw **counterclockwise** until snug. Rotate the Adjusting Screw 1/2 turn **clockwise** and tighten the Adjusting Screw Lock Nut.
10. Release the throttle and return the Locking Dog to its operating position.

Brake Band Replacement

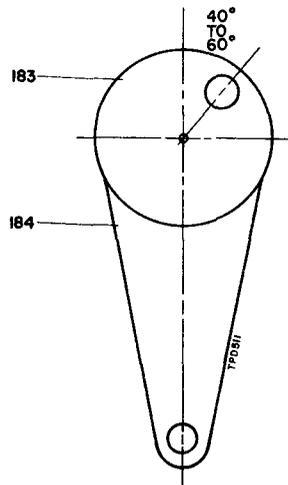
Replace the Brake Band Assembly (170) as follows:

1. Decrease Brake Band tension as in steps 1-4 in the **Brake Tension—Torsion Bar Adjustment** section.
2. Remove the Cotter Pin (177) and Washer (178) from the Brake Anchor Pin (176) and drive the Brake Anchor Pin from its insertion with the Winch Base.
3. Remove the Cotter Pin (181) and Washer (182) from the Motor side of the Brake Pin (180) and remove the Brake Pin from the brake adjusting section.
4. Remove the Brake Band Assembly from the Winch by springing it over the Motor Bracket (73).
5. Remove the Brake Band Clevis (172), Adjusting Screw Lock Nut (175) and Adjusting Screw (174) by rotating the Adjusting Screw **clockwise**. Inspect these parts and replace them if wear is evident before reassembling a new Brake Band Assembly. Replace the Brake Band Clevis Bearings (173) by pressing the old Bearings out, and using the Pin (180) as a sizing tool, pressing in new Bearings until they are flush.
6. Install the Lock Nut and Adjusting Screw on a new Brake Band Assembly by rotating the Adjusting Screw **counterclockwise** until the Lock Nut contacts the brake adjusting box. At this point the outer face of the Adjusting Screw should be flush with the outer face of the Lock Nut. Lubricate all joints with the recommended lubricant.
7. Install the Brake Band Clevis by rotating the Adjusting Screw in a **clockwise** direction until the cross holes align with the extreme end of the slots in the Brake Band adjustment box.
8. Put the Brake Band Assembly in place on the Winch.
9. Insert the Brake Pin and retain it with the Washer and Brake Pin Cotter.
10. Slide the Brake Anchor Pin (176) in place from the Rope Drum side and attach the Washer (178) and Cotter Pin (177).
11. Adjust the Brake as in steps 9 and 10 in the **Brake Tension—Torsion Bar Adjustment** section.

Assembly of Brake Crank

Service of Brake parts may require removing the Brake Crank (183) and Brake Crank Arm (184) from the Base. **Note:** Release the tension on the Torsion Bar as instructed in the Brake Tension section before attempting to remove the Brake Crank. Assemble a Brake Crank as follows:

1. If the Crank Link (191) was disassembled from the Brake Crank, proceed as follows:
 - (a) Position the Crank Link in the machined slot of the Brake Crank with the large diameter hole in the Link aligned with the hole for the Brake Crank Pin (183A).
 - (b) Position the Crank Pin Spacers (183D), one on each side of the Link, in the machined slot against the Link.
 - (c) Insert the Brake Crank Pin into the Brake Crank and through the Crank Link and Crank Pin Spacers.
 - (d) After aligning the groove in the Crank Pin with the threaded hole for the Crank Pin Setscrew (183C), install the Setscrew.
2. Insert the Brake Crank into the Drum end of the Brake Crank Support in the Base and engage the splines of the Brake Crank Arm. When correctly assembled, the Brake Crank Pin will appear from 40° to 60° right of top center when viewed from the Drum end. See illustration below.
3. Slide the Brake Crank with the Brake Crank Arm in place through the Brake Crank Spacer (188) and Brake Crank Washer (189).
4. Fasten the Brake Crank in the Base using a Brake Crank Washer (189) and Retainer (190).
5. Attach the Brake Crank Arm to the Brake Cylinder Clevis (207) by inserting the Clevis Pin (208) through the aligned holes in the Clevis and Brake Crank Arm.
6. Attach the Clevis Pin Washers (210) and Cotter Pins (209).
7. Proceed with Brake Band assembly and Brake and Torsion Bar adjustment.



(Dwg. TPD511)

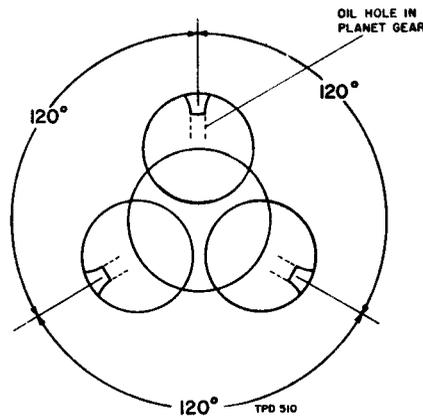
**Correct Arrangement of Brake Crank
and Brake Crank Arm**

Bushing Replacement

Should it be necessary to replace the Spool Valve Bushing (12), the Valve Chest (11) must be returned to the factory. Remove the Valve Chest as follows:

1. Remove the Valve Chest Bolts (22) and the Valve Chest Cover (20).
2. Thread a No. HU-932 Valve Chest Jack Bolt into the tapped hole in the lug on each side of the Valve Chest (11) 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.
3. Remove the Rotary Valve (47) and the Rotary Valve Bearing (49).
4. Remove the Spool Valve Cap Screws (37), Spool Valve Caps (35) and Spool Valve (30).
5. Remove the Brake Valve Cap (26), Brake Valve Seat (25) and Brake Valve (24).
6. To install the Valve Chest on the Motor, align the holes through the Valve Chest with those in the Motor Case (1). Protect the face of the Valve Chest with a hardwood block and press or drive the Valve Chest onto the Motor Case.
7. Insert the Rotary Valve (47) into the Valve Chest. Rotate the Valve slowly until the Valve Pin (48) located in the end of the Valve engages the matching hole in the Crank (50).
8. Insert the Rotary Valve Bearing (49) into the bearing recess in the Valve Chest and onto the Rotary Valve.
9. Apply the Valve Chest Cover (20) and Valve Chest Cover Gasket (21) and retain them with the Valve Chest Bolts (22).

Planet Gear Assembly



(Dwg. TPD510)

To maintain the proper timing of the gear train when inserting the Planet Gears (108) and Gear Frame (102) into the gearing end of the Winch proceed as follows:

For 44:1 gear ratio:

1. Mark 3 teeth on the Drum End Ring Gear (99) so that they are spaced 17 teeth apart.
2. With the Planet Gears (108) mounted in the Gear Frames (102), align the space with the through hole so that the spaces are 120° apart on the outside of the Gear Frames. (See illustration.)
3. Insert the Motor Pinion (90), spline end facing away from the Rope Drum, into the mounted Planet Gears.
4. Insert the drum end Gear Frame Bearing (103) into the recess on the drum end of the gearing assembly.
5. Align each marked tooth on the Drum End Ring Gear with a space on a Planet Gear as aligned in step 2 and slide the entire gearing unit into the Drum End Ring Gear.

For 59:1 gear ratio:

1. Prepare the Ring Gear and mounted Planet Gears as in steps 1 and 2 for the 44:1 gear ratio.
2. Install the drum end Gear Frame Bearing in the recess on the Gear Frame.
3. Align the spaces on the Planet Gears with the marked teeth on the Ring Gear and slide the assembled gear unit into the Ring Gear.
4. Insert the ground end of the Motor Pinion (12 teeth) into the mounted Gear Frame.

Ring Gear Bolt Tightening

(Dwg. TPD603-1)

If the Drum End Ring Gear Lock Bolts (100) must be removed for any reason, install them as follows:

1. Install all twelve Lock Bolts and tighten each Bolt to 95 to 100 ft-lb (129 to 136 N m) torque.
2. Insert a Lock Wire (100A) through the hole in the head of the Lock Bolt and twist the Wire together.
3. Thread the Wire through the head of the second and third Lock Bolt as illustrated on page 7 and twist the Wire together. **Note:** The Lock Wire must be installed as shown. Use one Lock Wire to secure three Lock Bolts.
4. Repeat steps 2 and 3 for the remaining three Lock Wires and nine Lock Bolts.

Rope Drum Roller Bearing Removal

It will be necessary to remove the Rope Drum Roller Bearing (132) when the Drum End Ring Gear (99) is removed. Remove the Roller Bearing as follows:

1. With the motor and Motor Bracket (73) removed, remove the Rope Drum Bearing Seal (135) to expose the Rope Drum Bearing Retainer (134) and motor end Bearing Plate (133).
2. Remove the Bearing Retainer and Bearing Plate and pull the cage of the Bearing **only 1/2 inch (13 mm)** toward the motor end. **The bearing rollers will fall out if the cage is withdrawn completely.**
3. Place a heavy elastic band around the exposed rollers and secure them in the cage.
4. Carefully withdraw the cage and rollers.
5. Taking care not to distort the outer race, remove the outer race from the inside of the rope drum. This is a press fit.

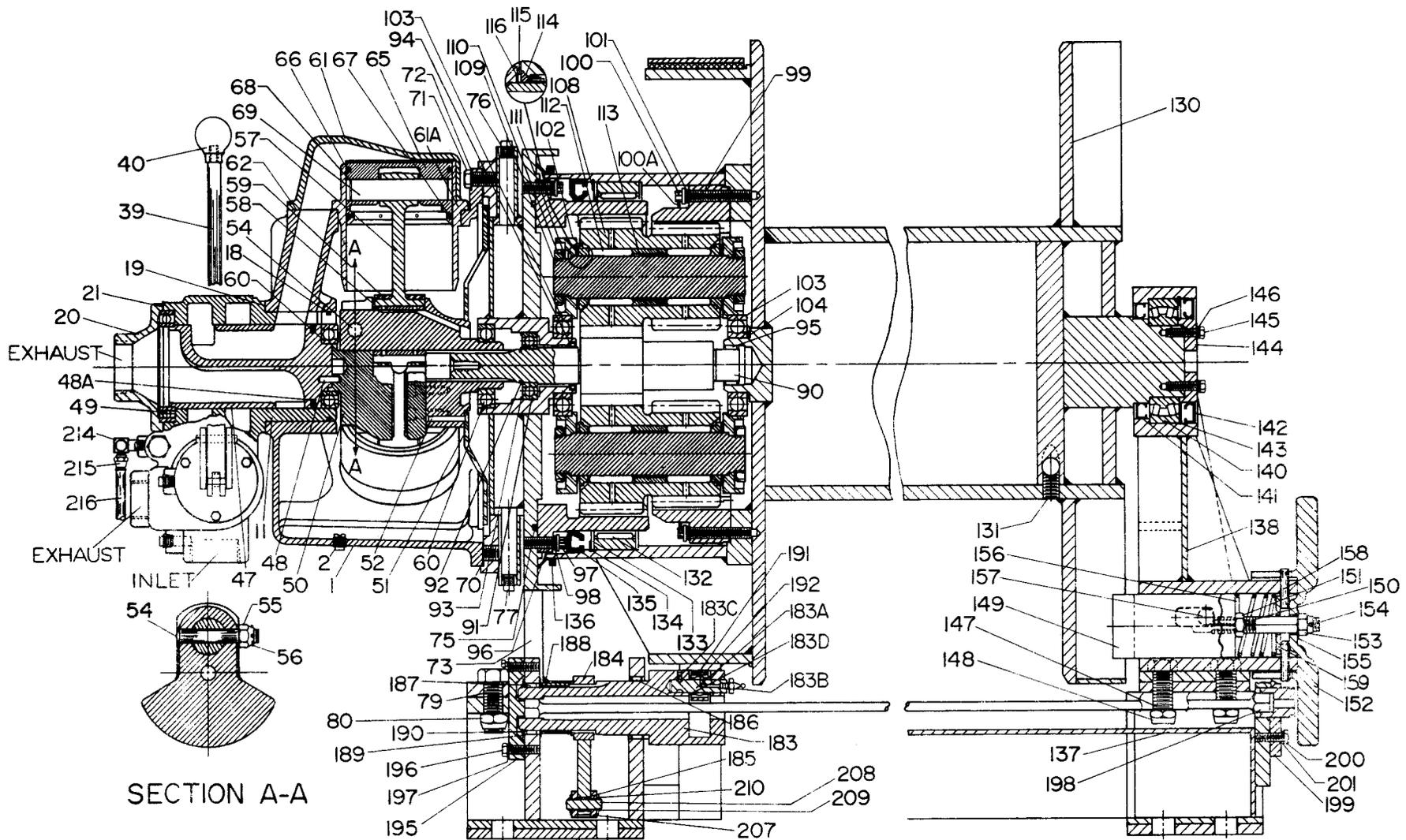
CRANK ASSEMBLY

The three sections of the Crank (50) are matched before final machining. There are identification marks stamped on the web of each section. Only sections bearing identical markings can be used together. If more than one Crank is disassembled at one time, be sure only matched parts are assembled together.

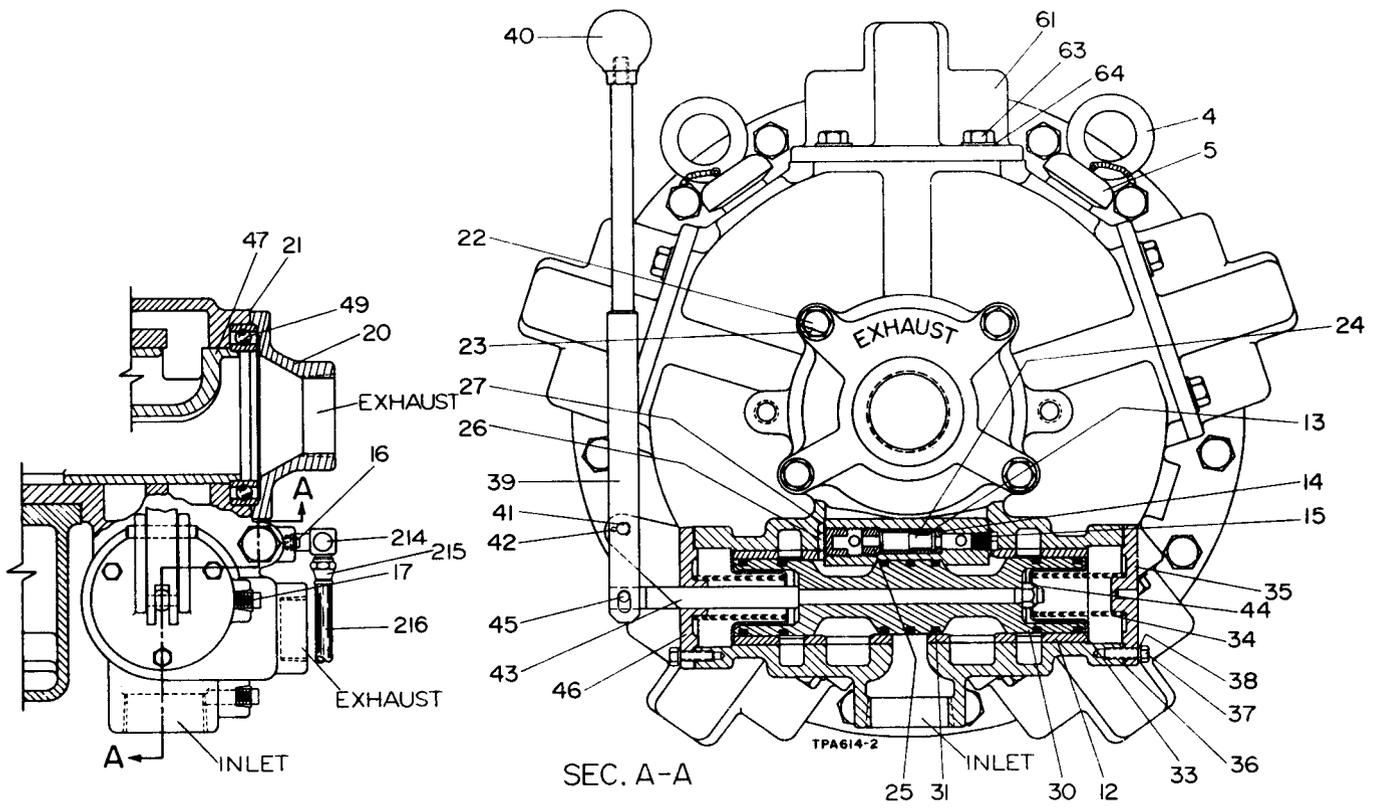
ROPE DRUM LOCKING DOG

The Rope Drum Locking Dog (149) may be hand actuated by pulling out on the Handle (152), rotating it to a vertical position and releasing it to engage the Rope Drum flanges. **WARNING: Do not actuate the Locking Dog while the Rope Drum is in motion.** One edge of the Locking Dog is beveled to aid in disengagement. To use a Drum stop engage the flat edge with the Rope Drum flange. When not in use the Locking Dog Handle may be held in a detent position by pulling out on the Handle, rotating it to a position parallel with the Base and releasing it.

The repair parts listed herein are **NOT** Dimetcoated. However, they can be furnished on special order with special pricing. Contact the nearest Ingersoll-Rand Branch Office.

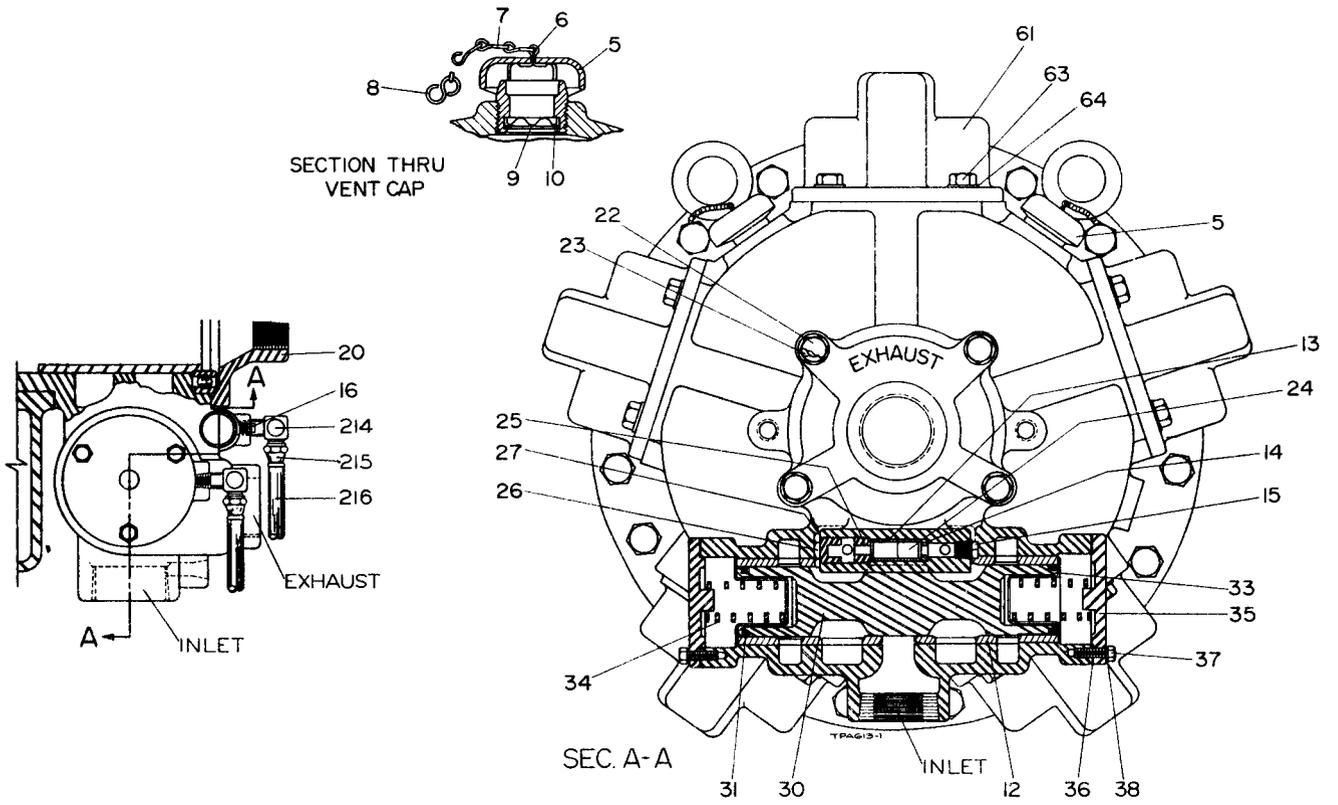


Series 35UWC Winch with Manual Throttle



(Dwg. TPA614-2)

Manual Throttle Valve Chest



(Dwg. TPA613-1)

Remote Control Valve Chest

MOTOR AND VALVE CHEST PARTS

PART NUMBER FOR ORDERING



1	Motor Case	K5W-501
2	Magnetic Drain Plug	K5W-29
*	Oil Level Plug	D02-402
4	Motor Case Eyebolt (2)	KU-888
*	Motor Nameplate	K5W-99
*	Nameplate Screw (6)	R4K-302
5	Vent Cap (2)	D02-303A
6	Vent Cap Cotter	D02-893
7	Vent Cap Chain	D02-891
8	S-Hook	D02-421
9	Vent Cap Screen	D02-889
10	Vent Cap Screen Retainer	6CND-233½
11	Valve Chest	K5W-245
★	Spool Valve Bushing (2)	K5W-247
13	Brake Valve Bushing	K5W-63
14	Brake Valve Disc	K5W-44
15	Brake Valve Plug	D02-402
16	1/8" Plug (2)	P250-368
17	3/8" Plug (3 for Manual Throttle; 1 for Remote Control)	JC3350-368
●	Valve Chest Seal	SM450B-607-1
●	Valve Chest Gasket	K5W-547
20	Valve Chest Cover	K5W-546
●	Valve Chest Cover Gasket	K5W-928
22	Valve Chest Bolt (4) (1/2"-13 thd. x 6" long, Grade 5)	K5W-548
23	1/2" Lock Washer (4)	D10-322
24	Brake Valve	K5W-62
25	Brake Valve Seat	K5W-65
26	Brake Valve Cap	D01-943
27	Valve Cap Gasket	D01-946
30	Spool Valve	
	for Manual Throttle	K5W-A246
	for Remote Control	K5W-ARC246
●	Spool Valve Seal (7 for Manual Throttle; 2 for Remote Control)	K5W-248
33	Spool Valve Spring Cup (2)	K5W-249
●	Spool Valve Spring (2)	
	for Manual Throttle	K5W-250
	for Remote Control	K5W-RC250
35	Spool Valve Cap	
	for Manual Throttle	K5W-251
	for Remote Control (2)	K5W-RC251
●	Spool Valve Cap Gasket (2)	K5W-946
37	Valve Cap Screw (6) (5/16"-18 thd. x 1" long)	B8-240
38	5/16" Lock Washer (6)	T11-58

- * Not illustrated.
- ★ The Valve Chest (11) must be returned to the factory for replacement of the Spool Valve Bushing (12).
- 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.

MOTOR AND VALVE CHEST PARTS (Continued)

PART NUMBER FOR ORDERING

Manual Throttle Parts	39	Throttle Lever	K5W-556
	40	Throttle Lever Knob	K5W-305
	● 41	Throttle Lever Pin	K5W-557
	42	Lever Pin Cotter (2)	D02-524
	43	Spool Valve Rod	K5W-255
	44	Valve Rod Nut	599-639
	● 45	Valve Rod Pin	K5W-870
	*	Valve Rod Pin Retainer	FEA100-118
	46	Throttle Lever Bracket	K5W-596
	47	Rotary Valve	K5W-A526
	● 48	Rotary Valve Pin	510-669A
	● 48A	Rotary Valve Seal	K5W-701
	● 49	Rotary Valve Bearing	21-703
		Crank Assembly	K5W-A516
	50	Bare Crank (consists of 3 parts which are not sold separately)	K5W-516
	51	Oil Splasher	KU-540
	52	Oil Splasher Long Rivet (2)	K5W-541
	*	Oil Splasher Short Rivet (2)	KU-542
	54	Crank Lock Pin	K5W-520
	55	Crank Lock Pin Nut	D02-317
	56	Crank Lock Pin Cotter	D02-330
	● 57	Connecting Rod (5)	K5M-509
	● 58	Connecting Rod Bushing	K5W-511
	● 59	Connecting Rod Ring (2)	KU-510
	60	Crank Bearing (2)	KU-518
		Cylinder Assembly (5)	K5W-A505A
	61	Cylinder Head	K5W-H505A
	61A	Cylinder Sleeve	K5W-L505A
	● 62	Cylinder Gasket (5)	K5W-507
	63	Cylinder Bolt (20) (5/8"-11 thd. x 1-1/4" long)	215-13
	64	Cylinder Bolt Washer (20)	KU-504
	65	Piston Assembly (5)	K5W-A513A
	● 66	Piston Ring (1 for each Piston)	KU-337
	● 67	Oil Regulating Ring (1 for each Piston)	KU-338
	68	Wrist Pin Retainer (2 for each Piston)	ILA902A9-589
69	Wrist Pin (5)	K5W-514	
● 70	Motor Gasket	K5W-592	
71	Motor Case Bolt (10) (5/8"-11 thd. x 1-1/4" long, 12 point head)	UWC-312	
72	5/8" Lock Washer (10)	A-67	
73	Motor Bracket	UWC-502	
*	Motor Bracket Pin (2)	UWC-28	
● 75	Motor Bracket Seal	UWC-990	
76	Motor Bracket Vent Plug	UWD-142	
77	Magnetic Drain Plug	UWC-29	
*	Oil Level Plug	D02-351	
79	Motor Bracket Mounting Bolt (4) (7/8"-9 thd. x 3-1/2" long, Grade 5)	UWC-562	
80	Mounting Bolt Nut (4) (7/8"-9 thd., Stover)	UWC-563	

* 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.

MOTOR AND VALVE CHEST PARTS (Continued)

PART NUMBER FOR ORDERING

90	Motor Pinion for 44:1 gear ratio (15 teeth)	UWC-319-44
	for 59:1 gear ratio (12 teeth)	UWC-319-59
91	Motor Pinion Bearing	HU-518
92	Inner Pinion Bearing Retainer	UWC-317
93	Outer Pinion Bearing Retainer	UWC-313
● 94	Motor Pinion Seal	UWC-315
● 95	Pinion Needle Bearing	UWC-754
96	Ring Gear, Motor End (54 teeth)	UWC-797
97	Motor End Ring Gear Bolt (12) (1/2"-13 thd. x 1-3/4" long)	UWC-799
98	1/2" Lock Washer (12)	HRA20A-322
99	Ring Gear, Drum End (51 teeth)	UWC-798
100	Drum End Ring Gear Lock Bolt (12) (1/2"-13 thd. x 3" long)	UWC-730A
100A	Lock Wire (4)	UWC-698-30
101	1/2" Lock Washer (12)	HRA20A-322
102	Planet Gear Frame (2)	UWC-367
103	Planet Frame Bearing (2)	23-71
104	Wave Washer	UWC-278
*	Stabilizer Bar (3)	UWC-356
*	Stabilizer Bar Bolt (6) (1/2"-13 thd. x 1", Grade 5)	D10-354
*	1/2" Lock Washer (6)	D10-322
108	Planet Gear (3)	UWC-364
109	Planet Gear Shaft (3)	UWC-365
110	Shaft Lock Nut (6)	215-43
● 111	Shaft Lock Washer (6)	215-44
● 112	Planet Gear Roller (126)	UWC-366
● 113	Roller Spacer (3)	UWC-363
● 114	Thrust Plate (6)	UWC-360
● 115	Thrust Bearing (6)	UWC-361
● 116	Thrust Race (6)	UWC-119

* 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.

ROPE DRUM AND BASE PARTS

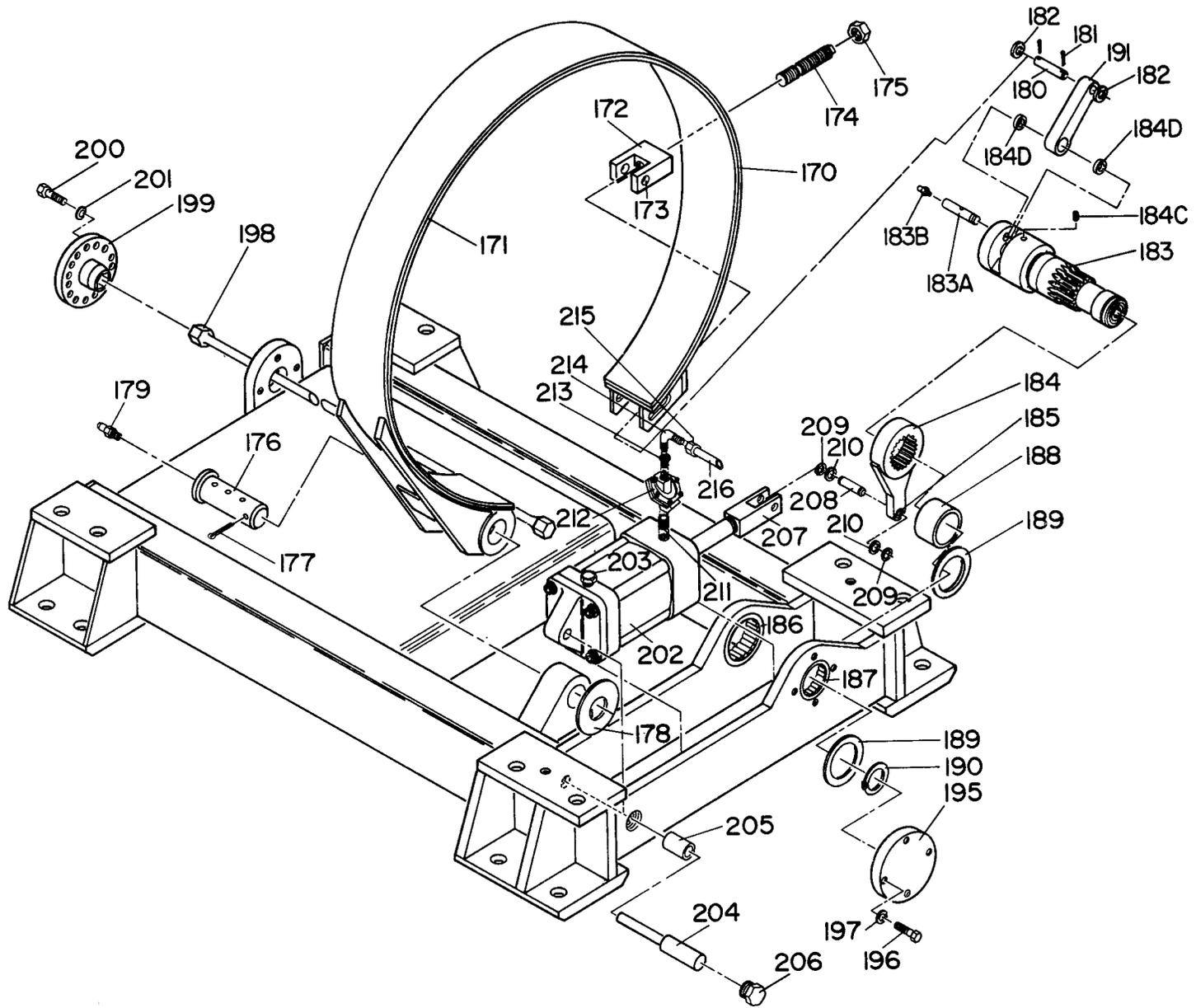
PART NUMBER FOR ORDERING

130	Rope Drum for Models 35UWC441, 35UWC441RC, 35UWC591 and 35UWC591RC (12" between the flanges) (305 mm) for Models 35UWC442, 35UWC442RC, 35UWC592 and 35UWC592RC (24" between the flanges) (610 mm) for Models 35UWC443, 35UWC443RC, 35UWC593 and 35UWC593RC (36" between the flanges) (914 mm) for Models 35UWC444 and 35UWC444RC (48" between flanges) (1219 mm)	UWC-324-1 UWC324-2 UWC-324-3 UWC-324-4 K6U-381
131	Rope Setscrew (2)	UWC-466
132	Rope Drum Roller Bearing	UWC-469
133	Rope Drum Bearing Plate (2)	UWC-340
134	Rope Drum Bearing Retainer	UWC-137
● 135	Rope Drum Bearing Seal	UWC-298
● 136	Gearing Seal	
137	Mounting Base for Models 35UWC441, 35UWC441RC, 35UWC591 and 35UWC591RC for Models 35UWC442, 35UWC442RC, 35UWC592 and 35UWC592RC for Models 35UWC443, 35UWC443RC, 35UWC593 and 35UWC593RC for Models 35UWC444 and 35UWC444RC	UWC-564-1 UWC-564-2 UWC-564-3 UWC-564-4 UWC-677A
138	Drum Support Bracket	23-188
*	Grease Fitting	UWC-665
140	Outer Drum Bearing	UWC-661
● 141	Drum Bearing Inner Seal	UWC-662
● 142	Drum Bearing Outer Seal	UWC-660
143	Drum Bearing Retainer	UWC-663
144	Drum Bearing Cap	PDA312-28
145	Drum Bearing Cap Bolt (4) (3/8"-16 thd. x 1-1/4" long, Grade 5)	D20-321
146	3/8" Lock Washer (4)	UWC-562
147	Support Bracket Mounting Bolt (4) (7/8"-9 thd. x 3-1/2" long, Grade 5)	UWC-563
148	Mounting Bolt Nut (4) (7/8"-9 thd., Stover)	UWC-671
149	Locking Dog	UWC-672
150	Locking Dog Shaft	DU-562
151	Shaft Lock Nut	UWC-673
152	Locking Dog Handle	D02-317
153	Handle Lock Nut	D02-330
● 154	Cotter Pin	PDA312-56
155	5/8" Washer	101BMP-700-1
156	Locking Dog Spring	D10-354
157	Locking Dog Stop Bolt (1/2"-13 thd. x 1" long, Grade 5)	UWC-44
158	Groove Pin (2) (1/2" x 1-3/4" long)	D01C-258
159	Washer (3" OD x 1-3/8" ID x .1793")	DU-301
*	Winch Nameplate	R4K-302
*	Nameplate Screw (4)	TA-147A
*	Caution Tag	R4K-302
*	Caution Tag Screw (4)	DU-32
*	Direction of Rotation Plate	R4K-302
*	Rotation Plate Screw (4)	UWD-96
*	Locking Dog Warning Plate	R4K-302
*	Warning Plate Screw (4)	UWD-90
*	Brake Adjustment Plate	R4K-302
*	Brake Plate Screw (4)	

* Not illustrated.

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Brake Parts For Series 35UWC Winches

(Dwg. TPA651-1)

BRAKE PARTS

PART NUMBER FOR ORDERING

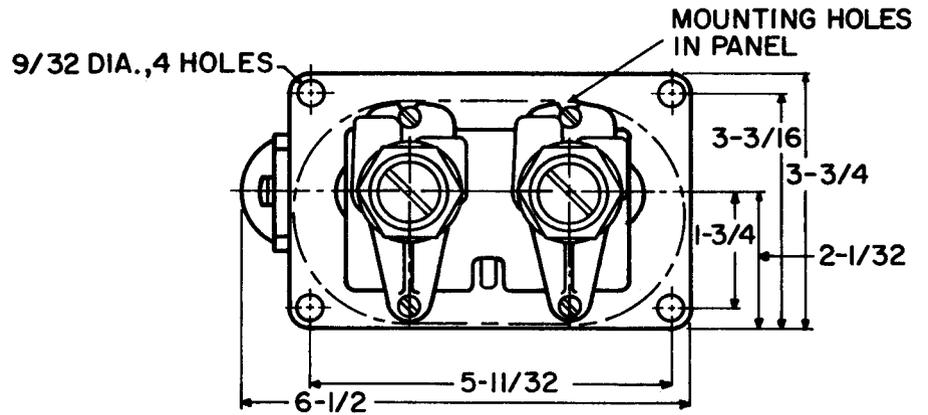
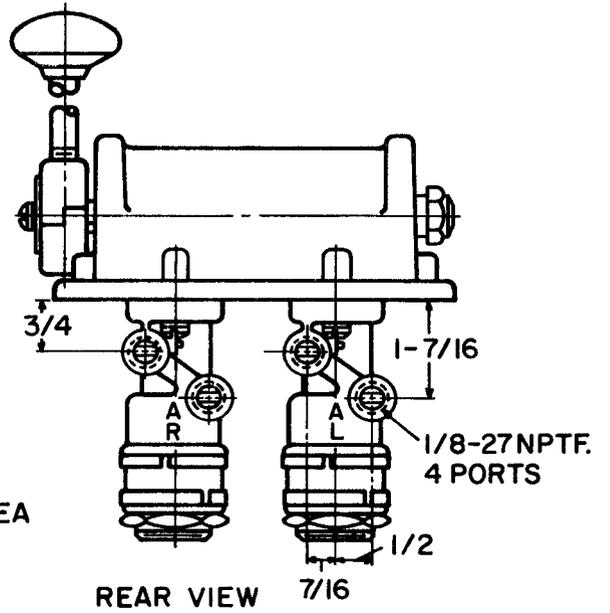
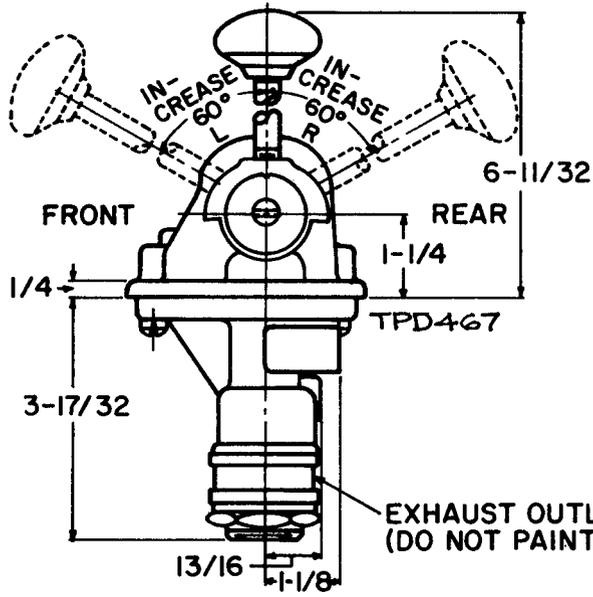
PART NUMBER FOR ORDERING

	PART NUMBER FOR ORDERING		PART NUMBER FOR ORDERING
● 170	Brake Band Assembly	UWC-A101	197 3/8" Lock Washer (4) D02-321
171	Brake Lining	UWC-102	198 Torsion Bar
172	Brake Band Clevis	UWD-104	for Models 35UWC441, 35UWC441RC, 35UWC591 and 35UWC591RC UWC-131-1
● 173	Clevis Bearing (2)	UWD-105	for Models 35UWC442, 35UWC442RC, 35UWC592 and 35UWC592RC UWC-131-2
174	Adjusting Screw	UWD-106	for Models 35UWC443, 35UWC443RC, 35UWC593 and 35UWC593RC UWC-131-3
175	Adjusting Screw Lock Nut (3/4"-10 thd.)	DU-562	for Models 35UWC444 and 35UWC444RC UWC-131-4
176	Brake Anchor Pin	UWC-107	199 Torsion Bar Anchor UWC-132
● 177	Anchor Pin Cotter	UWD-108	200 Torsion Bar Anchor Bolt (4) (3/8"-16 thd. x 1-1/4" long, Grade 5) PDA312-28
178	Anchor Pin Washer	D10-437	201 3/8" Lock Washer (4) D02-321
179	Grease Fitting	23-188	202 Brake Cylinder UWC-141
180	Brake Pin	UWD-109	203 Breather Vent Plug UWC-142
● 181	Brake Pin Cotter (2)	D02-330	204 Cylinder Anchor Pin UWC-143
182	5/8" Washer (2)	235-309	205 Cylinder Spacer UWC-145
183	Brake Crank Assembly	UWC-111A	206 Anchor Pin Cap UWC-146
183A	Brake Crank Pin	UWC-112A	207 Cylinder Clevis UWC-144
183B	Grease Fitting	R1-188	208 Cylinder Clevis Pin UWC-147
183C	Crank Pin Setscrew	R2J-561	209 Clevis Pin Retainer (2) UWC-148
183D	Crank Pin Spacer (2)	UWC-124	210 Clevis Pin Washer (2) UWC-149
184	Brake Crank Arm	UWC-113	211 Cylinder Nipple UWC-286
● 185	Brake Arm Bushing	UWC-114	212 Quick-Exhaust Valve MR-939
186	Bearing, Crank End	UWD-116	213 Reducing Bushing UWD-82
187	Bearing, Motor End	UWD-117	214 Brake Hose Elbow UWD-161
188	Crank Spacer	UWC-118	215 Hose Swivel (2) UWD-162
189	Washer (2)	UWD-119	216 Brake Hose UWD-163-3
190	Crank Retainer	UWD-120	* Hose Clip (2) UWD-727
191	Crank Link	UWC-122	
● 192	Crank Link Bushing	UWC-123	
195	Brake Crank Cover	UWC-346	
196	Crank Cover Bolt (4) (3/8"-16 thd. x 1-1/2" long, Grade 5)	23-717	

* Not illustrated.

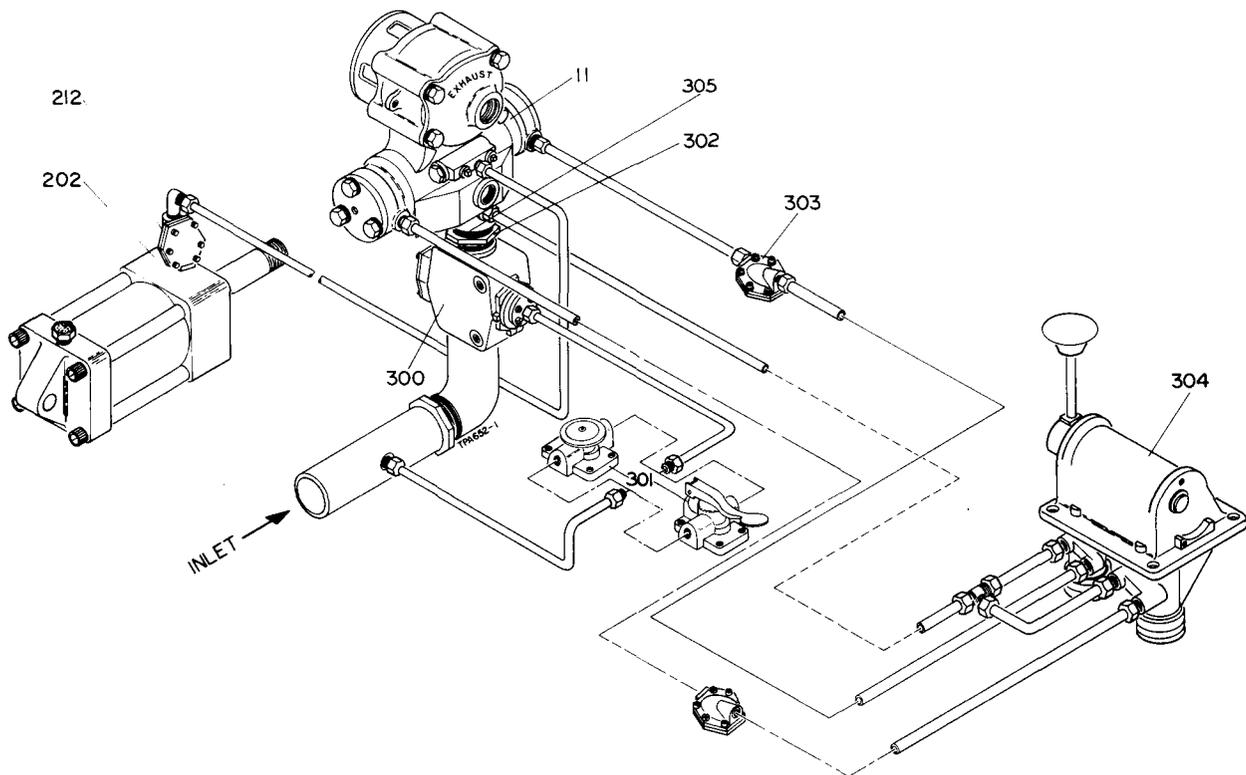
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MOUNTING DIMENSIONS FOR REMOTE CONTROL BLOCK



(Dwg. TPD467)

REMOTE CONTROL PARTS



(Dwg. TPA652-1)

PART NUMBER FOR ORDERING



300	Control Valve	UWD-900
301	Auxiliary Valve	
	with Palm Button	UWD-905
	with Foot Pedal	UWD-910
302	Reducing Bushing (2-1/2" to 2" NPT)	UWD-284
■ 303	Quick-Exhaust Valve (2) (used when Remote Control hose exceeds 50 feet and every 50 feet thereafter)	
		MR-939
304	Remote Control Block (WABCO MC-2 three-way valve)	UWD-A686
305	2" Pipe Nipple	PCG208AC-286

■ Contact the Ingersoll-Rand Sales Engineer when Remote Control hose exceeds 100 feet.

REMOTE CONTROL CONVERSION KITS For converting Winches from Manual to Remote Control Operation

PART NUMBER FOR ORDERING



Remote Control Kit (includes illustrated Remote Control parts 30, 34 (2), 35 (2), 301, 302, 303 (2), 304 and 305)	
with Palm Button Auxiliary Valve	UWD-K900
with Foot Pedal Auxiliary Valve	UWD-K900F

MAINTENANCE TOOLS

TOOL NUMBER FOR ORDERING	TOOL NAME FOR ORDERING	OPERATION
P25-228 HU-932 KU-933	Grease Gun Valve Chest Jack Bolt (2 required) Piston Ring Compressor	Lubrication. Removing the Valve Chest (11) from the Motor Case (1). Compressing the Piston Rings (66 and 67) when installing the Cylinder Assembly.