



**OPERATOR'S / PARTS  
MANUAL**



**Snowblowers  
Models**

**P-64-IV**

**P-72-IV**

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# ***INTRODUCTION***

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Your Snowblower was carefully designed and we are Confident it will meet your requirements in terms of quality, performance and reliability.

This manual was prepared to assist you in the safe operation of your new Snowblower. It contains important information which will help you achieve excellent returns with your Snowblower.

Please read this manual completely before operating your Snowblower and keep it for future reference.

Before starting the machine, you or any other person who will be operating the Snowblower must familiarize yourself with the safety recommendations and the operating instructions. Please read carefully and be sure to understand and follow all recommendations and procedures.

In this manual, the right and left sides are identified as shown on Figure 1.

If you require additional information on your Snowblower, please contact your dealer

**Now** take a moment to enter the model, serial number and the date of purchase of your Snowblower in the space provided.

When ordering parts from your Dealer, please refer To these numbers for a fast and efficient service. Use manufacturer parts for replacement.

The model and serial numbers are on the name plate shown on Fig. 1.

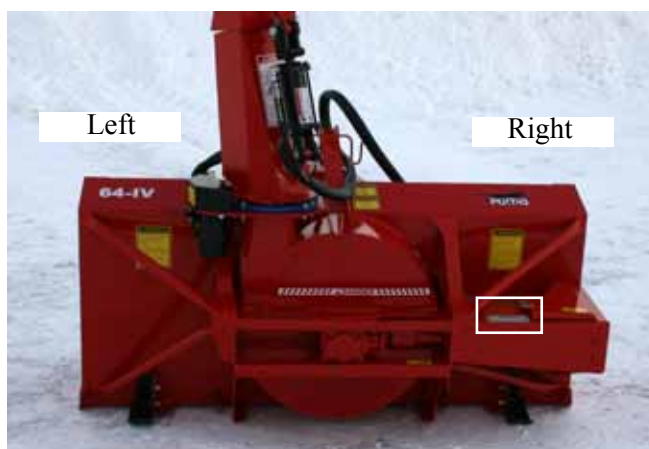


Figure 1

MODEL: \_\_\_\_\_ 

SERIAL N°: \_\_\_\_\_ 

DATE OF PURCHASE: \_\_\_\_\_ 

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# ***SAFETY***

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## ***GENERAL SAFETY***

### **WHEN YOU SEE THIS SYMBOL**



**ATTENTION!**

**BE ALERT  
YOUR SAFETY IS INVOLVED**

This symbol «**SAFETY ALERT**» is used in this manual and on the safety decals on the Snowblower. It warns you of the possibility of danger. Carefully read, understand and follow all safety recommendations before operating the Snowblower.

- 1) Careful operation is the best assurance against accidents. Carefully read this manual and follow all recommendations before operating your Snowblower. It is the owner's responsibility to make sure that anyone who will operate the Snowblower will read this manual before operating the equipment.
- 2) Familiarize yourself with all controls and always be ready to stop the Snowblower quickly in case of emergency.
- 3) Never let a child operate the Snowblower.
- 4) Do not modify the Snowblower. Any non authorized modification may affect the efficiency and/or safety of the equipment.
- 5) Never operate the Snowblower with defective parts or if damaged in any way. Have it repaired before operating.
- 6) Make sure all fasteners are in place and properly secured or tightened. Refer to torque chart on page 28.
- 7) Avoid wearing loose fitting clothing when working with the Snowblower. These could get entangled in moving parts of the equipment and cause accidents.
- 8) Prolonged exposure to noise may hamper hearing. Protect yourself by wearing adequate protection devices.
- 9) Hydraulic fluids under pressure can damage your skin. Do not use your hands to locate a leak.
- 10) Before the beginning of the snow season, inspect all areas where the Snowblower will be used and remove any object which may cause an accident and/or damage the equipment.
- 11) Never operate your Snowblower in poor visibility or without proper lighting conditions.

## ***SAFETY IN OPERATION***

- 1) Be sure there are no obstructions around the equipment and that no one stands near the equipment when in operation.
- 2) Do not operate an engine in a confined or non ventilated area.
- 3) Do not perform any adjustments, cleaning, maintenance or repairs with the engine running. The engine must be stopped and the P.T.O. disengaged. Preferably remove the key from the ignition.
- 4) Wear adequate clothing when working in cold or windy conditions.
- 5) Before operating, make sure the P.T.O. is properly installed and secured.
- 6) Before starting-up the Snowblower, make sure the auger and drum areas are free of ice.
- 7) Put P.T.O. control in neutral position before starting engine.
- 8) Keep hands, feet and clothing away from moving parts of the Snowblower. Stay away from the discharge chute.
- 9) Before unplugging the chute, always disengage the P.T.O., stop the engine and relieve all hydraulic pressures.

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## ***SAFETY (cont'd)***

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- 10) Do not operate in excessive inclined conditions. Be careful when turning in slopes.
- 11) Never operate your Snowblower with missing guards or without protective devices in place.
- 12) Do not operate your Snowblower near buildings, windows or other vehicles without prior and proper adjustment of the chute deflector.
- 13) Never aim discharge chute towards people or animals. This may cause serious injuries.
- 14) Always reduce operating speed in slippery conditions.
- 15) Be careful when backing-up, make sure you have good visibility.
- 16) Always be on the lookout for objects which may enter the Snowblower.
- 17) If undue vibrations are felt, disengage the P.T.O., stop the motor and look for the cause of the vibration. Vibration is usually the indication of a problem.
- 18) At the end of the operation, disengage the P.T.O., lower the Snowblower, put transmission in neutral, apply parking brake, stop engine and remove the key from the ignition.

### ***SAFETY WITH MAINTENANCE***

- 1) Perform the Snowblower maintenance according to recommendations contained in this manual.
- 2) Stop engine and relieve all hydraulic pressures before doing inspection, maintenance or repairs.
- 3) Never perform any work under the Snowblower while it is supported only by the tractor's hydraulic system. It must be completely supported by wooden blocks or other safe means.

### ***SAFETY IN TRANSPORT***

- 1) On public roads, use proper safety lights and check local regulations.
- 2) Be alert while driving on the road. Never carry passengers.
- 3) Always disengage P.T.O. while moving from one area of work to another.
- 4) The recommended road speed should be such as to maintain full control over steering and braking.
- 5) Be careful while backing up, make sure you have good visibility.

### ***SAFETY IN STORAGE***

- 1) Provide adequate supports to prevent any accidental overturning of the Snowblower.
- 2) Do not let children play in the area where the Snowblower is stored.

# DECALS

## SAFETY DECALS

The safety decals are affixed wherever special safety precautions are indicated. Locate them on the machine and read them carefully. If a decal is damaged, lost or illegible, install a new one. The following photos indicate where each one must be installed.



Figure 3  
Decal A

Part n°: 190-11671



Figure 4  
Decal B

Part n°: 190-07723



Figure 5  
Decal C

Part n°: A103



Figure 6

## DECALS (cont'd)



Figure 7



Figure 10  
Decal F

Part n°: 190-10991



Figure 8  
Decal D

Part n°: 190-11581

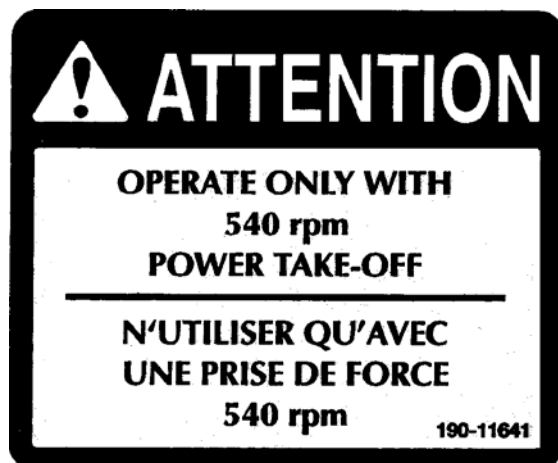


Figure 9  
Decal E

Part n°: 190-11641



*DECALS (cont'd)*



Figure 11  
Part n°: A108



Figure 12  
Part n°: A 109

*MAINTENANCE DECALS*

The maintenance decals indicate the points requiring lubrication. Refer to maintenance section for more details.



Figure 13

Part n°: A 106

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# *ASSEMBLY*

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Figure 14

## *ASSEMBLY*

- 1) The Snowblower is shipped partly assembled.
- 2) Install P.T.O. shaft with the shear pin end onto the Snowblower gear box. Then attach safety shield support chain as shown. **WARNING:** The telescoping tubes of the drive shaft must never be allowed to bottom out while maintaining a minimum overlap of 6 inches.
- 3) If you install a hydraulic cylinder on the chute deflector, use model 25TR04 cylinder.
- 4) When installing chute, grease the groove of the UHMW slide in order to prevent the corrosion of the rim of the chute.
- 5) For the installation of the chute rotation mechanism, please refer to parts section, according to the type used.

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# ***STARTING-UP***

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## ***START-UP PROCEDURES***

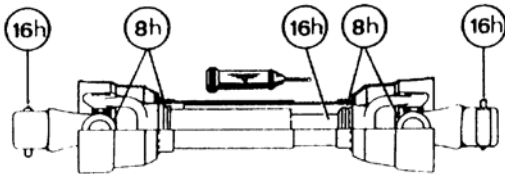
- 1) Check oil level in gearbox. Adjust to required oil level as per drawing in Parts List section. Use SAE 80W90 oil.
- 2) Lubricate all points with a good quality multipurpose grease.
- 3) Verify for adequate tightness of all fastening devices. Refer to torque chart on page 28.
- 4) Make sure of a 540 RPM input to your snowblower.
- 5) In order to avoid damaging your snowblower, adjust the speed of descent of your 3 point hitch to prevent striking the ground too hard.
- 6) Adjust the hydraulic flow in order to have a good control of the rotation speed of the chute.

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# MAINTENANCE

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- 1) Wipe off all grease fittings with a clean cloth before adding grease in order to avoid injecting dirt and sand.
- 2) Repair or replace damaged grease fittings.
- 3) Lubricate all grease fittings every 8 hours of operation.
- 4) Oil drive chain every 8 hours of operation.
- 5) Lubricate P.T.O. shaft as indicated below:



Pull out the P.T.O. and lubricate between the two tubes with low temperature grease. Drive line tubes must slide easily even in cold weather. Clean off old hardened grease and apply fresh grease as needed.

- 6) Check oil level in gear box once a month. If necessary add oil.
- 7) Check tension of drive chain every 24 hours of operation and adjust if necessary.
- 8) Check for tightness of bearing collars every 48 hours of operation.

- 9) Change gearbox oil once a year. Use gear box oil S.A.E. 80W90 rated API, class GL-5.
- 10) Check all nuts and bolts once a year. If necessary use torque chart on page 28.
- 11) For the PTO shaft, always use a grade 5 shear bolt.
- 12) UHMW slides do not require lubrication except at the end of the season in order to prevent corrosion of steel components that are in contact with the UHMW material.

## CHAIN REPLACEMENT

- 1) When installing a new chain, it is strongly recommended to also change all the sprockets of your drive. The worn sprockets no longer have the proper pitch for your new chain; causes stretching and premature wear of the chain. Always route your chain according to the defined configuration.

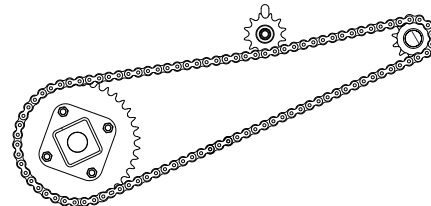


Figure 15

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## ***STORAGE***

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- 1) Store the Snowblower in a cool, dry place.
- 2) Support the Snowblower with wooden blocks.
- 3) Keep all piston rods in the retracted position. This will assure better protection against the elements.
- 4) Clean your Snowblower.
- 5) Thoroughly inspect all parts of the Snowblower. Replace or repair worn or defective parts.
- 6) Touch-up or repaint if necessary.
- 7) Lubricate all points before storage.

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# ***SPECIFICATIONS***

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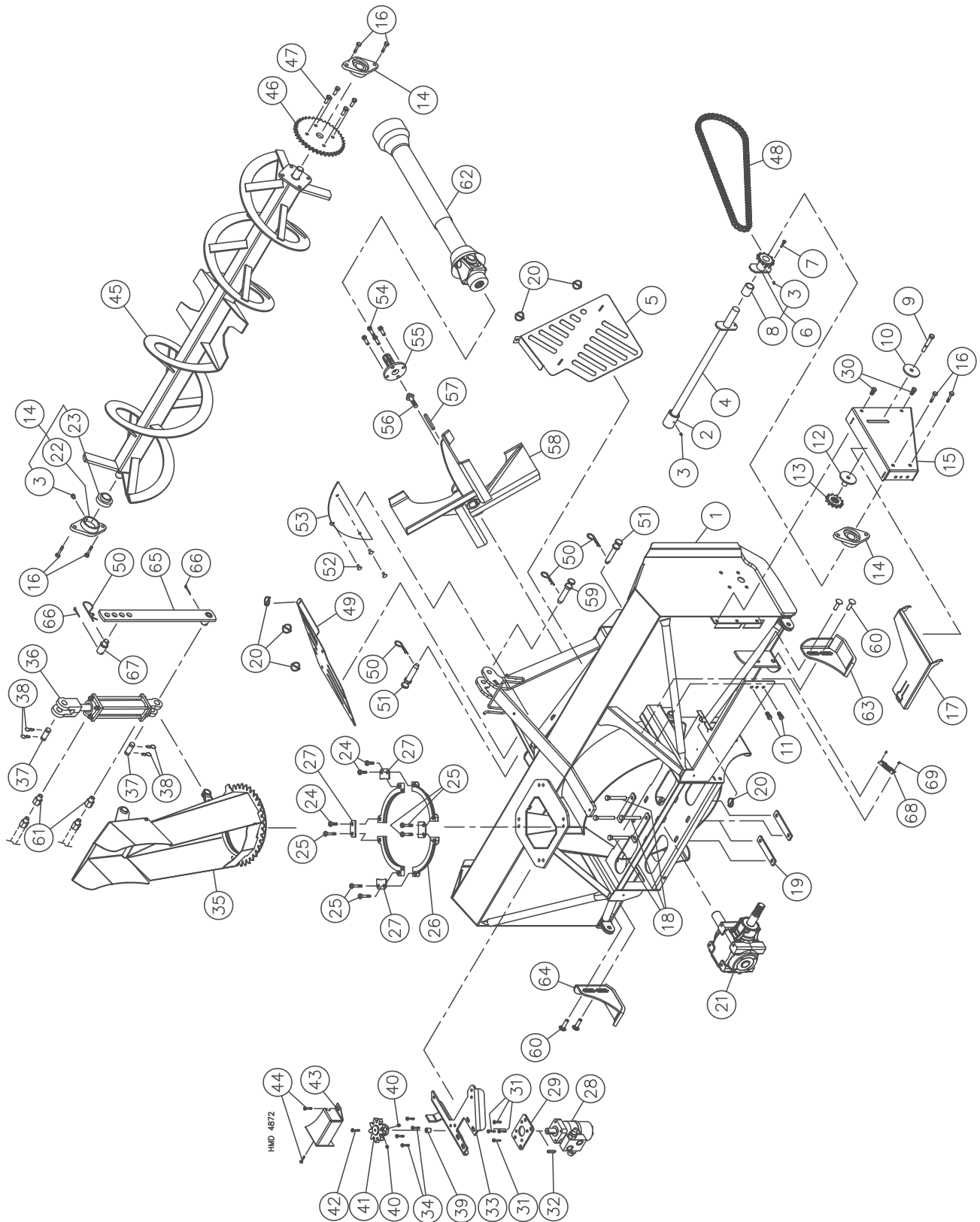
## **SPECIFICATIONS**

<b>MODEL</b>	<b>P-64-IV</b>	<b>P-72-IV</b>
Horse power recommended	18 to 35	18 to 35
Cutting width	64"	72"
Cutting height	29"	29"
Drum diameter	24"	24"
Depth of drum	7"	7"
Impeller blades	4	4
Height - impeller center	15"	15"
Size of impeller shaft	1 ¼"	1 ¼"
Impeller RPM	540	540
Auger diameter	16"	16"
Drive chain	50	50
Chute	Included	Included
Antifriction ring for chute	Included	Included
Chute rotation mechanism	Manual	-
	Hyd. cylinder	-
	Hyd. motor	Included
Deflector adjustment	Manual	-
	Hyd. cylinder	Included
Hitch category	1	1
PTO shaft category	T40	T40
Weight including chute (lbs)	470	502

Design and specifications subject to change without notice.

# SNOWBLOWERS P-64-IV P-72-IV

170-08291R2



# SNOWBLOWERS P-64-IV P-72-IV (cont'd)

REF.	PART #	DESCRIPTION	QTY	
			64	72
1	120-13321	Frame P-64-IV.....	1	-
1	120-14321	Frame P-72-IV.....	-	1
2	6466	Ring 1 1/4" - 19 splines (welded) .....	1	1
3	400-00145	Grease fitting 1/4" - 28 straight .....	8	8
4	110-02972	Drive shaft 25 1/4" (included #2) .....	1	-
4	110-42601	Drive shaft 29 1/4" (included #2) .....	-	1
5	131-46751	Impeller guard, right side .....	1	1
6	6567	Sprocket # 50 + ass. shear plate (included #3 and #8).....	1	1
7	312-32250	Shear bolt 1/4" NC x 1" lg grade 2 + nylon locknut .....	1	1
8	6566	Bushing 1" i.d. x 1 1/8" o.d. x 1 1/2" lg .....	1	1
9	300-40400	Bolt 1/2" NC x 3 1/2" lg + nylon locknut .....	1	1
10	378-40340	Flat washer 1/2" i.d. x 2" o.d. ....	1	1
11	300-36250	Bolt 3/8" NC x 1" lg + nylon locknut .....	4	4
12	110-07732	Idler .....	1	1
13	6604	Idler sprocket #50 .....	1	1
14	UCFLD205-16	Bearing 1" + ductile iron casting flange .....	3	3
15	131-45081	Side chain guard .....	1	1
16	300-40250	Bolt 1/2" NC x 1" lg + nylon locknut .....	6	6
17	131-45181	Drive shaft guard .....	1	1
18	300-36550	Bolt 3/8" NC x 5 1/2" lg + nylon locknut .....	4	4
19	130-78551	Gear box spacer .....	4	4
20	400-00096	Lynch pin 3/16" x 1 1/4" .....	6	6
21	110-67501	Gear box T281 .....	1	1
22	FLD205	Ductile iron casting flange .....	3	3
23	UC205-16	Bearing 1" ø .....	3	3
24	300-36325	Bolt 3/8" NC x 1 3/4" lg + nylon locknut and (2) flat washer .....	3	3
25	300-36340	Bolt 3/8" NC x 2" lg + nylon locknut and (2) flat washer .....	5	5
26	110-45111	Chute flange .....	4	4
27	130-89241	Flange support .....	4	4
28	MLH-125	Hydraulic motor with cushion valve .....	1	1
29	130-53751	Motor support plate .....	1	1
30	300-36220	Bolt 3/8" NC x 3/4" lg + nylon locknut .....	2	2
31	300-36250	Bolt 3/8" NC x 1" lg + lock washer .....	4	4
32	8369	"Orbit" motor key .....	1	1
33	110-32531	Base .....	1	1
34	300-38280	Bolt 7/16" NC x 1 1/4" + flat washer and nylon locknut .....	4	4
35	110-67511	Chute .....	1	1
36	25TR04	Cylinder .....	1	1
37	6005-1	Clevis pin 1" x 3 1/8" lg .....	2	2
38	400-00081	Hairpin cotter 7/8" .....	4	4
39	160-19701	Spacer .....	1	1
40	323-36160	Set screw 3/8" NC x 3/8" lg .....	2	2
41	110-32171	Gear .....	1	1
42	300-32280	Bolt 1/4" NC x 1 1/4" + lock washer .....	1	1
43	130-54731	Safety guard .....	1	1
44	300-36250	Bolt 3/8" NC x 1" + flat washer and nylon locknut .....	2	2
45	110-67451	Auger P-64-IV .....	1	-
45	110-69631	Auger P-72-IV .....	-	1
46	190-21321	Sprocket 50A32 T 1" ø .....	1	1
47	300-36280	Bolt 3/8" NC x 1 1/4" lg + two-way locknut .....	4	4
48	190-21331	Chain #50 x 53 3/4" lg .....	1	1
49	131-46741	Impeller guard, left side .....	1	1
50	400-00097	Hitch pin clip 5/32" .....	3	3
51	6253	Pins category 1 .....	2	2
52	321-34220-AD	Carriage bolt 5/16" NC x 3/4" lg + nylon locknut .....	3	3
53	131-45221	Impeller deflector .....	1	1
54	300-38310	Bolt 7/16" NC x 1 1/2" lg + nylon locknut .....	4	4
55	110-39181	Splined shaft adaptor .....	1	1
56	190-21211	Bolt 3/8" NC x 1 1/4" lg modified .....	1	1
57	140-29891	Impeller key .....	1	1
58	110-67411	Impeller 24" ø 4 blades .....	1	1
59	150-06012	Pin category 1 (3 point top) .....	1	1
60	321-38280-AD	Carriage bolt 7/16" NC x 1 1/4" lg + nylon locknut .....	4	4
61	RSP-1/16x06NPT	Kit of 2 unidirectional restrictors 3/8" NPT .....	opt. opt.	
61	RSP-1/16x08NPT	Kit of 2 unidirectional restrictors 1/2" NPT .....	opt. opt.	
62	400-00341	PTO shaft (T40) .....	1	1
63	110-15343	Right skid shoe .....	1	1
64	110-15344	Left skid shoe .....	1	1

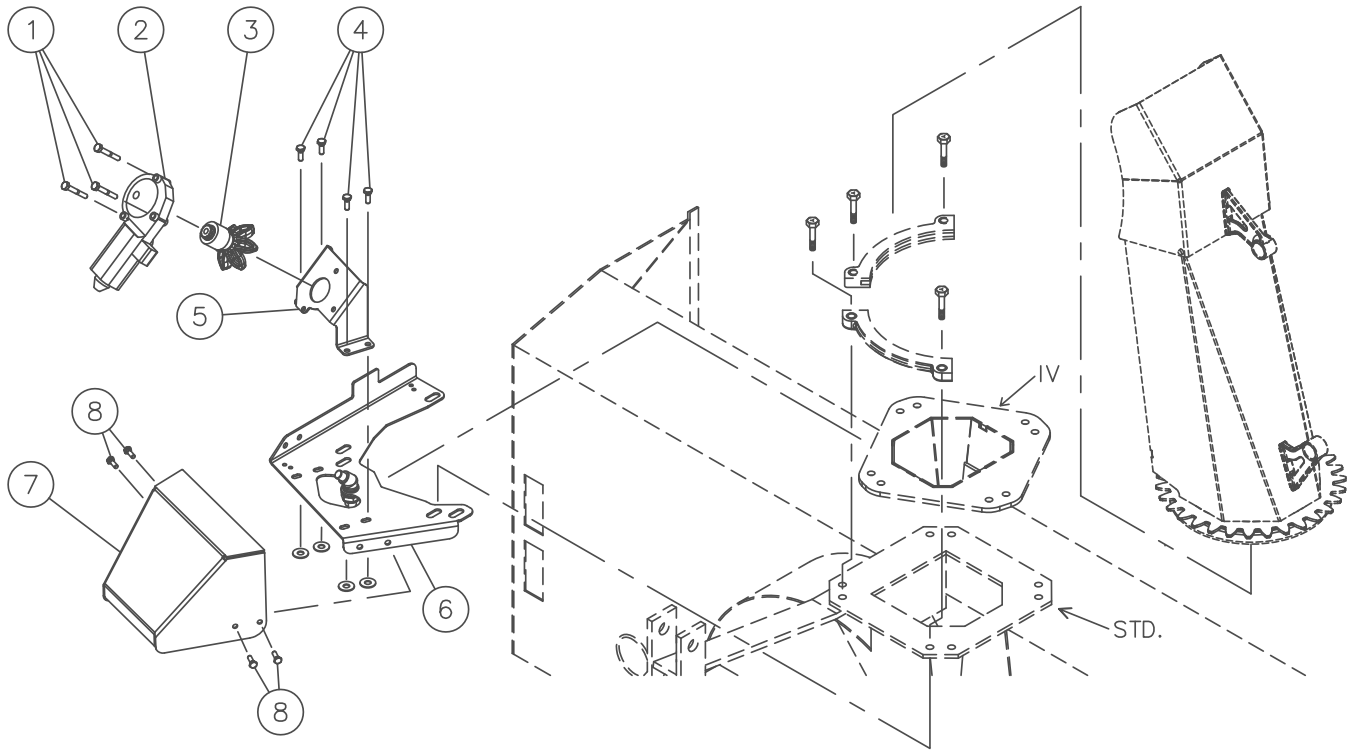


# SNOWBLOWERS P-64-IV P-72-IV (cont'd)

REF.	PART #	DESCRIPTION	QTY	
			64	72
65	110-02981	Chute adjusting rod .....	1	1
66	400-00095	Cotter pin 5/32" x 1 1/2" .....	2	2
67	150-00641	Chute adjusting rod's cotter .....	1	1
68	400-00073	Serial number plate .....	1	1
69	400-00122	Aluminium rivet 1/8" .....	2	2
NI	DEC-P-72-IV	Decal kit for snowblower P-64-IV .....	1	-
NI	DEC-P-72-IV	Decal kit for snowblower P-72-IV .....	-	1

# ELECTRIC CHUTE COMPONENTS ERD-4872

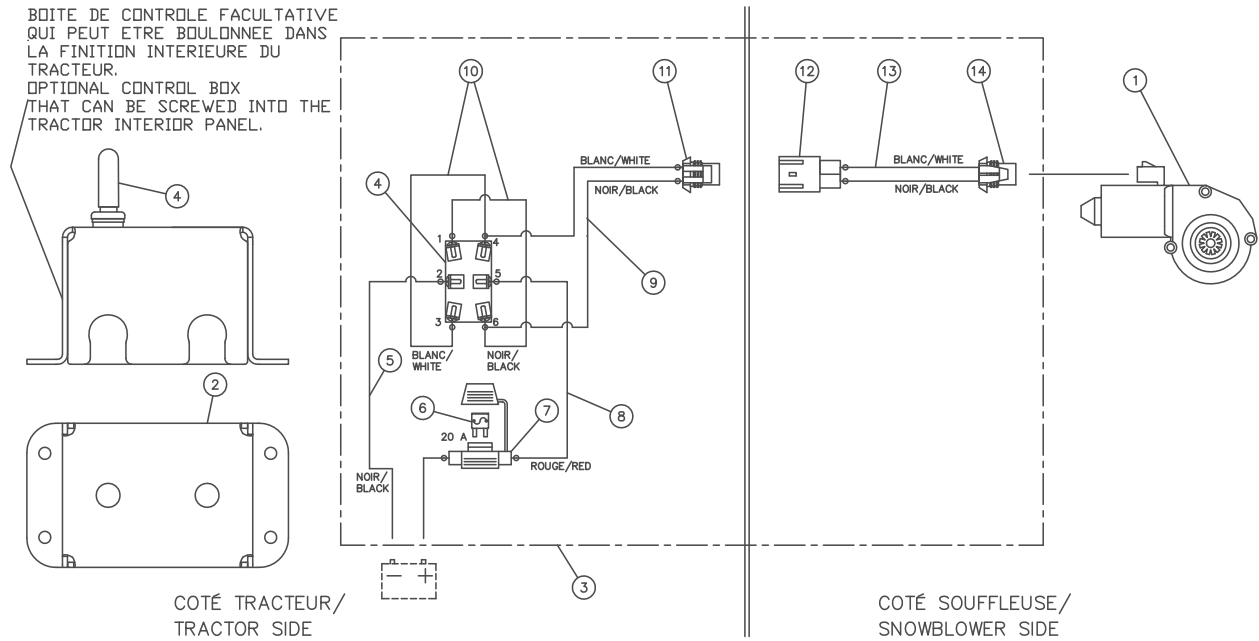
170-08381R1



REF.	PART #	DESCRIPTION	QTY
1	300-32325	Bolt 1/4" NC x 1 3/4" lg + nylon locknut .....	3
2	400-00322	Electric motor 12 V .....	1
3	110-67241	Sprocket .....	1
4	300-32220	Bolt 1/4" NC x 3/4" lg + nylon locknut + flat washer .....	4
5	131-44461	Motor support .....	1
6	110-67221	Chute base extension .....	1
7	131-54231	Electric motor guard .....	1
8	300-32220	Bolt 1/4" NC x 3/4" lg + nylon locknut .....	4

# ELECTRIC CHUTE DIAGRAM ERD-4872

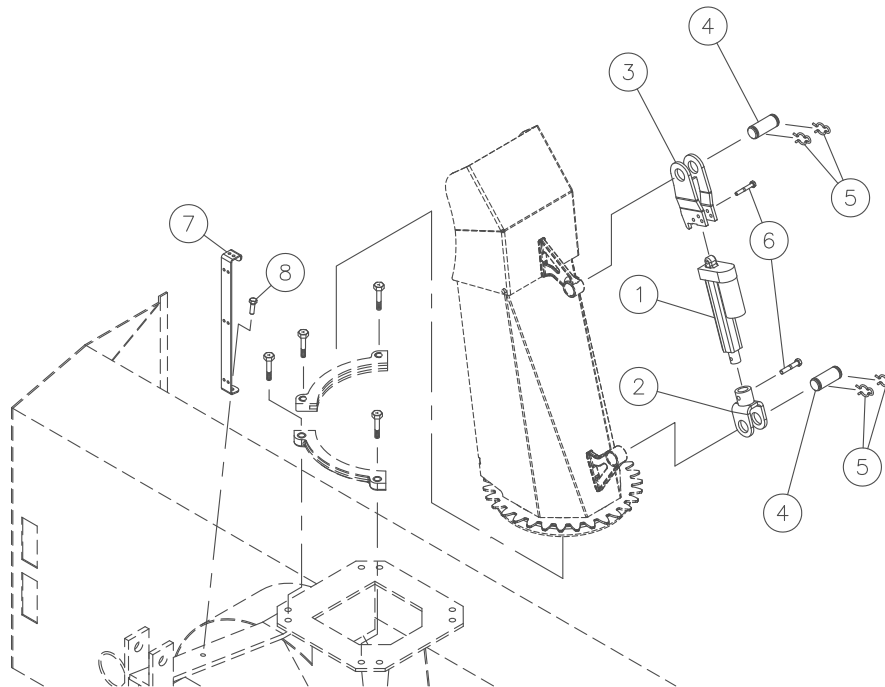
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REF.	PART #	DESCRIPTION	QTY
1	400-00322	Electric motor 12 V .....	1
2	131-44831	Control box .....	1
3	400-00343	Electrical harness (including items # 4 to # 14) .....	1
4		Control switch 2 positions.....	1
5		Cable 1 wire x 14GA x 7' .....	1
6		Fuse 20A .....	1
7		Fuse holder.....	1
8		Cable 1 wire x 14GA x 6' .....	1
9		Cable 2 wires x 14GA x 5' .....	1
10		Cable 1 wire x 14GA x 3 ½' .....	2
11		Connector Delphi Metri-pack male .....	1
12		Connector Delphi Metri-pack female .....	1
13		Cable 2 wires x 14GA x 7' .....	1
14		Connector Delphi 12129487-B.....	1

# ELECTRIC CHUTE DEFLECTOR COMPONENTS AE-04

170-08391R1

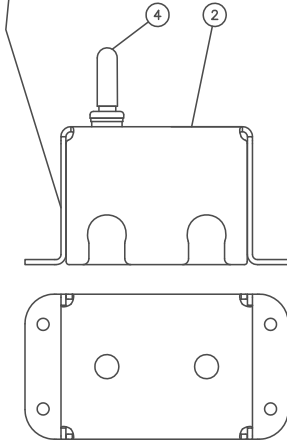


REF.	PART #	DESCRIPTION	QTY
1	400-00326	Electric actuator 12 V, 4" stroke .....	1
2	110-66011	Cylinder support.....	1
3	110-66271	Cylinder support.....	1
4	150-19821	Cylinder pin .....	2
5	400-00081	Hairpin clip 7/8" x 2 1/4" .....	4
6	300-32525	Bolt 1/4" NC x 1 3/4" lg + nylon locknut .....	2
7	131-54211	Electric wiring support .....	1
8	300-34250	Bolt 5/16" NC x 1" lg + nylon locknut .....	1

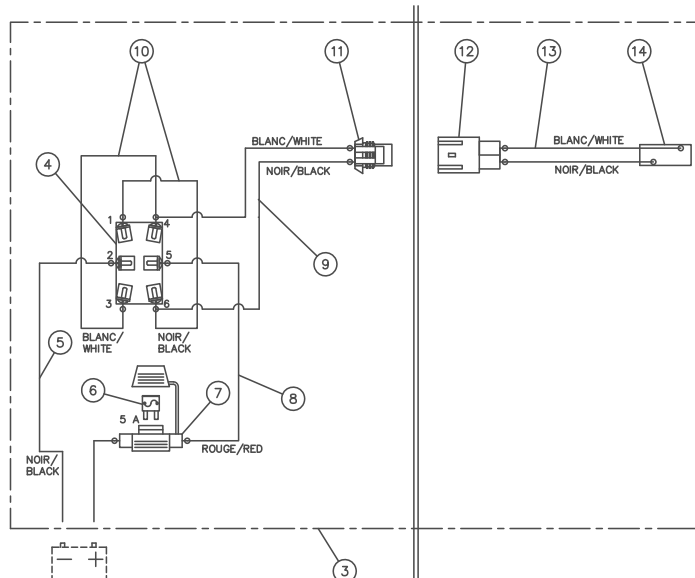
# ELECTRIC CHUTE DEFLECTOR DIAGRAM AE-04

170-08281

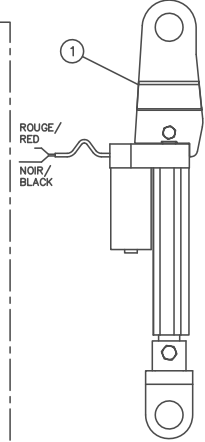
BOITE DE CONTROLE FACULTATIVE  
 QUI PEUT ETRE BOULONNEE DANS  
 LA FINITION INTERIEURE DU  
 TRACTEUR.  
 OPTIONAL CONTROL BOX  
 THAT CAN BE SCREWED INTO THE  
 TRACTOR INTERIOR PANEL.



COTÉ TRACTEUR/  
 TRACTOR SIDE

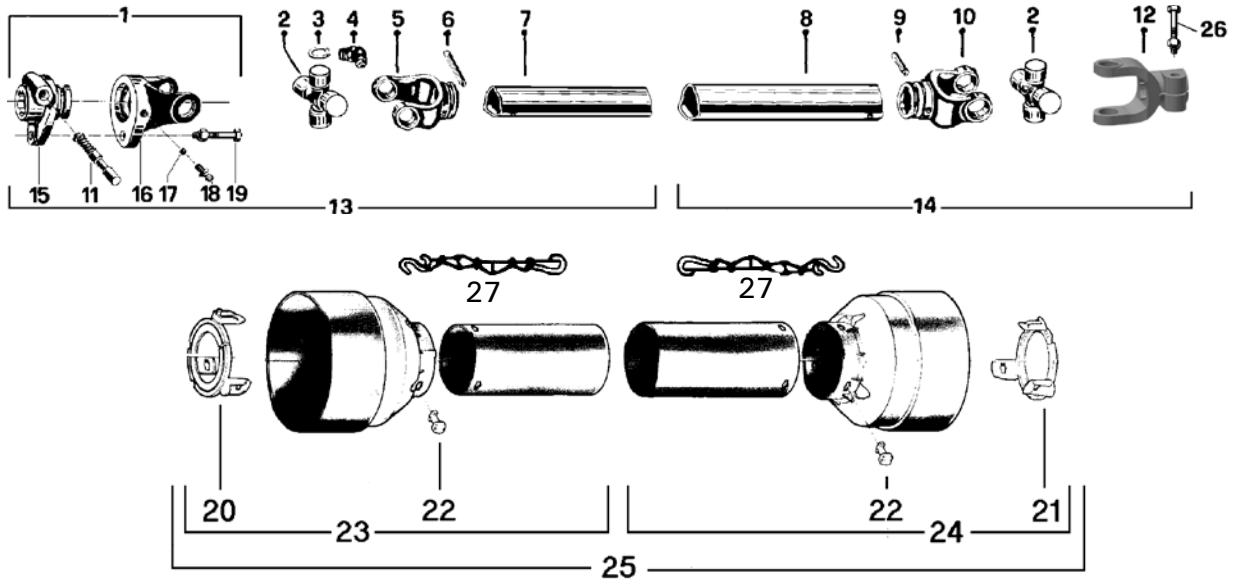


COTÉ SOUFFLEUSE/  
 SNOWBLOWER SIDE



REF.	PART #	DESCRIPTION	QTY
1	400-00326	Electric actuator 12 V, 4" stroke .....	1
2	131-44831	Control box .....	1
3	400-00342	Electrical harness (including items # 4 to # 14) .....	1
4		Control switch 2 positions.....	1
5		Cable 1 wire x 16GA x 7' .....	1
6		Fuse 5A .....	1
7		Fuse holder.....	1
8		Cable 1 wire x 16GA x 6' .....	1
9		Cable 2 wires x 14GA x 5' .....	1
10		Cable 1 wire x 16GA x 3 1/2' .....	2
11		Connector Delphi Metri-pack male .....	1
12		Connector Delphi Metri-pack female .....	1
13		Cable 2 wires x 14GA x 9' .....	1
14		Thermo-shrink sleeving 1/2" x 6" lg.....	1

# P.T.O. SHAFT # 400-00341 (T40)

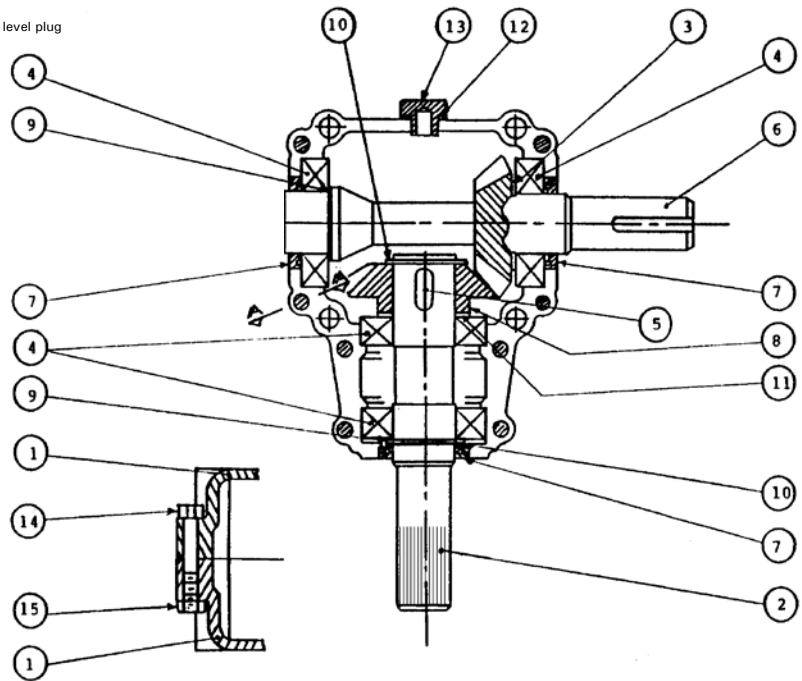
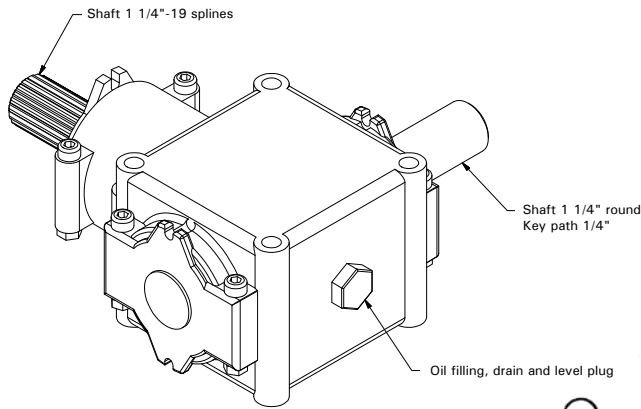


REF.	PART #	DESCRIPTION	QTY
1	6232	Safety shear yoke with push pin .....	1
2	6239	U-joint + 4 retaining rings + 1 grease fitting.....	2
3	6234	Retaining ring .....	8
4	8110	Grease fitting.....	2
5	6353	Yoke for inner tube.....	1
6	6344	Stopper for inner tube.....	1
7	6343	Inner tube .....	1
8	6342	Outer tube.....	1
9	6341	Stopper for outer tube .....	1
10	6340	Yoke for outer tube .....	1
11	8068-E	Yoke lock.....	1
12	6354-BS	Yoke with hole 1 3/8" - 6 splines, interfering bolt .....	1
13	6236	P.T.O. section, side with safety shear bolt, inner part, with protector .....	1
14	6237	P.T.O. section, side without safety shear bolt, outer part, with protector .....	1
15	6233	Adaptor (2 bolts).....	1
16	6235	Yoke and shearplate .....	1
17	8070	Ball.....	17
18	8071	Grease fitting.....	1
19	6238	Safety shear bolt M8 x 50mm .....	1
20	6348-E	Bearing ring for inner guard tube .....	1
21	6349-E	Bearing ring for outer guard tube.....	1
22	8109	Stopper.....	6
23	6350	Inner shield.....	1
24	6351	Outer shield.....	1
25	6352	Complete shield .....	1
26	8222	Bolt M12 x 70mm.....	1
27	8308	Safety chain .....	2

# GEAR BOX 110-67501 (T281A modified)

110-67501

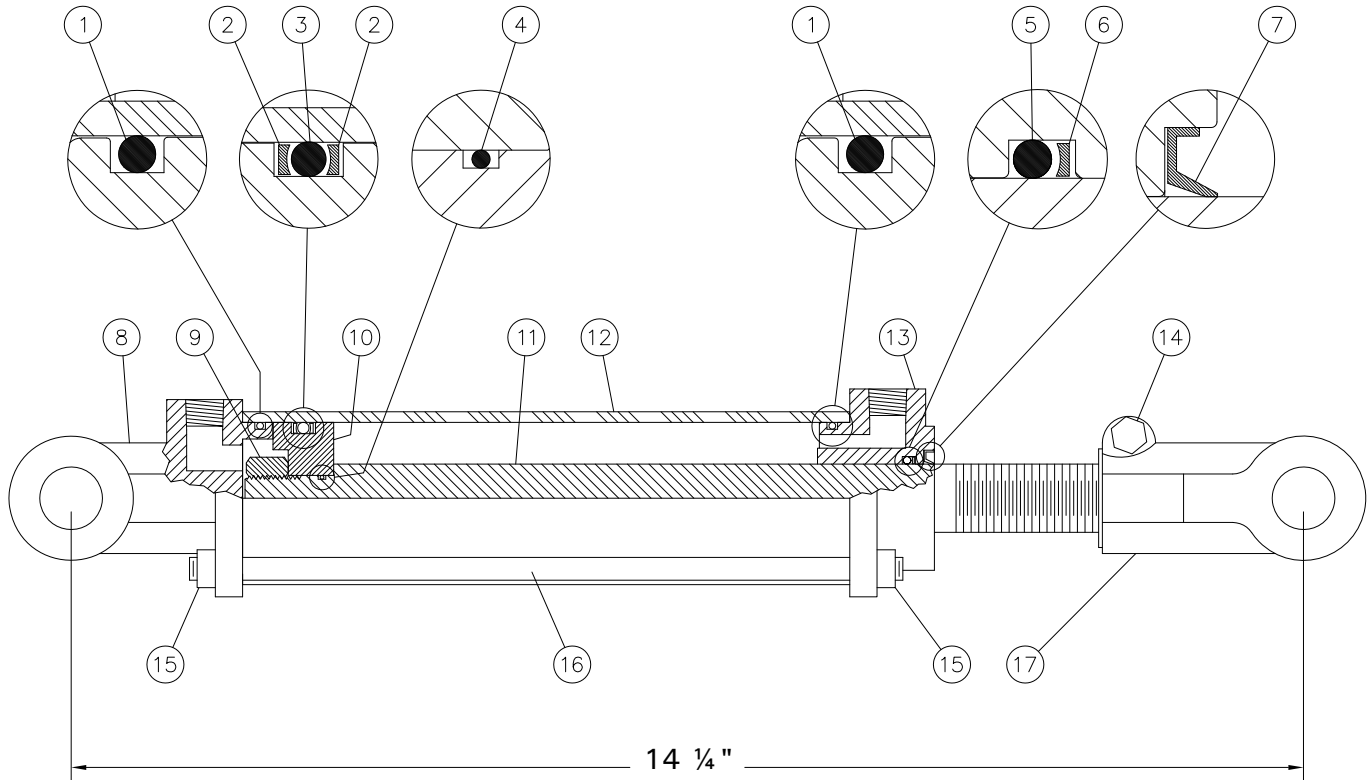
Oil volume required: 0.5 liter.  
Use SAE 80W90 oil or equivalent.



REF.	PART #	DESCRIPTION	QTY
1	6414	Casing .....	2
2	6429	Side shaft (1 ¼" - 19 splines) .....	1
3	6416	Spacer 35,3 x 48 .....	1
4	6207-2RS	Ball bearing .....	4
5	6418	Key 10 x 8 x 30 .....	1
6	6419-1	Impeller shaft 1 ¼" .....	1
7	6420	Seal 35 x 52 x 7 .....	3
8	6421	Gear Z19 .....	1
9	6422	Spacer 35.3 x 0.5 .....	2
10	6423	Snap ring 35 UNI7435 .....	2
11	6424	Spacer 35.3 x 0.6 .....	1
12	6425	Oil seal .....	1
13	6426	Oil plug (oil filler plug, drain plug and oil level plug) .....	1
14	6427	Bolt M8 x 55 .....	8
15	6428	Nut M8 .....	8

# CYLINDER 25TR04

170-02141



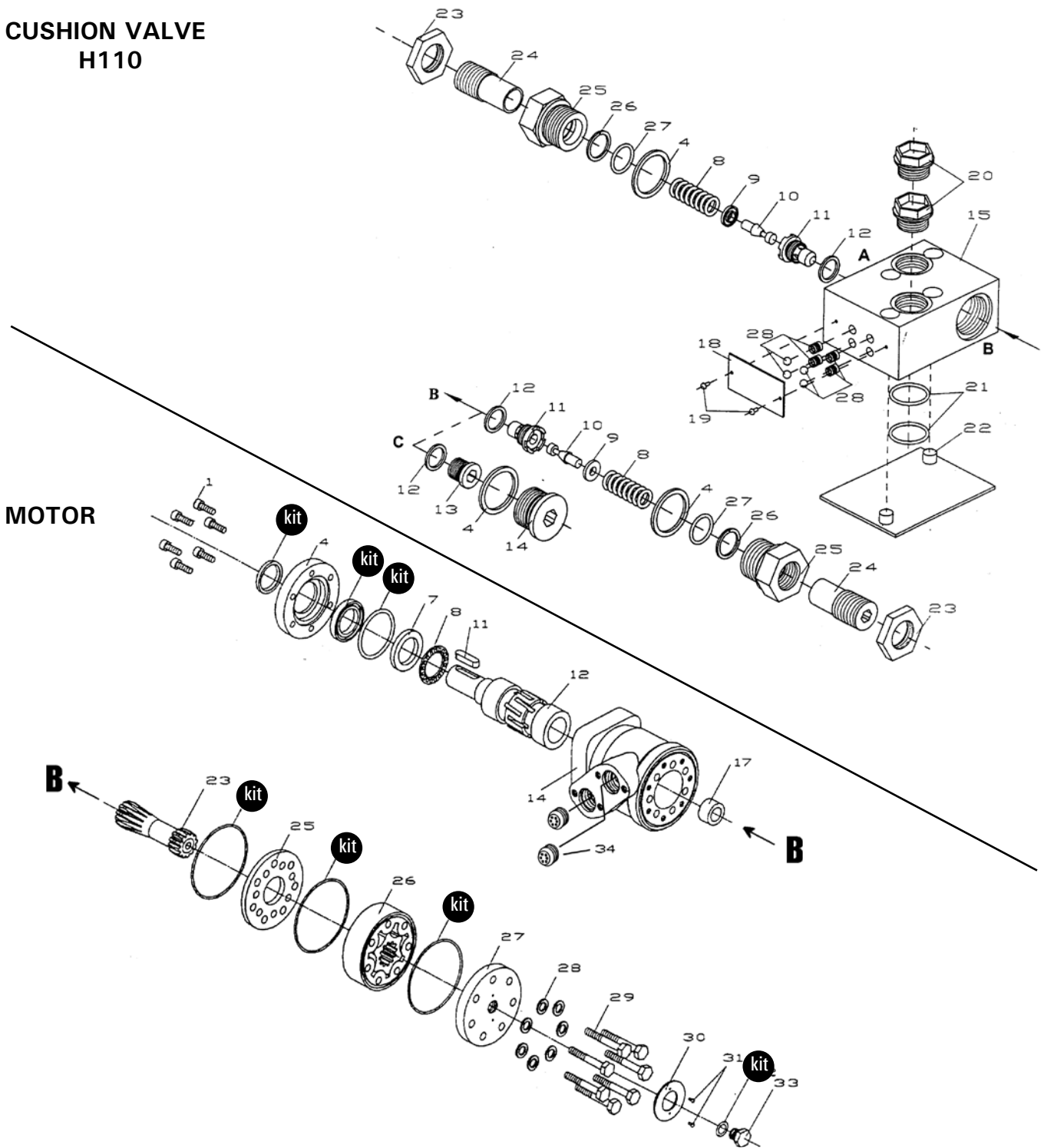
REF.	PART #	DESCRIPTION	QTY
1	See #RK25TR	O-ring 1/8" x 2 1/4" x 2 1/2" .....	2
2	See #RK25TR	Back-up 2 1/2" o.d. x 3/16 ø .....	2
3	See #RK25TR	O-ring 3/16" x 2 1/8" x 2 1/2" .....	1
4	See #RK25TR	O-ring 1/16" x 5/8" x 3/4" .....	1
5	See #RK25TR	O-ring 1/8" x 1 1/8" x 1 3/8" .....	1
6	See #RK25TR	Back-up 1 3/8" o.d. x 1/8" ø .....	1
7	See #RK25TR	Wiper 1 1/8" i.d. x 1 5/8" o.d. ....	1
8	492401	Yoke (for 2 1/2" tube) .....	1
9	338-46000	Nut 3/4" NF .....	1
10	4924-31	Piston 2 1/2" ø .....	1
11	491980-04	Piston rod 1 1/8" .....	1
12	491668-04	Cylinder body 2 1/2" ø .....	1
13	492421	Head (for 2 1/2" tube) .....	1
14	300-36355	Bolt 3/8" NC x 2 1/4" + nut .....	1
15	336-36000	Nut 3/8" NC .....	8
16	Std.	Threaded rod 3/8" NC x 8" lg .....	4
17	458599	Yoke (for 1 1/8" rod) .....	1
NI*	8183	Pin 1" ø + cotter pin .....	2
NI*	RK25TR	Repair kit for cylinder 2 1/2" (includes # 1, 2, 3, 4, 5, 6, & 7) .....	1

\*NI = NOT ILLUSTRATED



# HYDRAULIC MOTOR #MLH-125, MLH-250-R & MLH-315-R

## CUSHION VALVE H110



REF.	PART #	DESCRIPTION	QTY
kit	8368	Set of seals.....	1
11	8369	Key for "Orbit" motor.....	1

# TORQUE CHART

## IMPERIAL CHART

MAXIMUM TORQUE									
Grade 2			Grade 5			Grade 8*			
Bolt size	Thread by inch	Tool size	Dry	Lubricated	Dry	Lubricated	Dry	Lubricated	Lubricated
1/8 #5	NC	3/8	8 lbs/in	6 lbs/in	13 lbs/in	10 lbs/in	18 lbs/in	13 lbs/in	13 lbs/in
1/8 #5	NF	3/8	9 lbs/in	6 lbs/in	13 lbs/in	10 lbs/in	19 lbs/in	14 lbs/in	14 lbs/in
3/16 #10	NC	3/8	28 lbs/in	21 lbs/in	43 lbs/in	32 lbs/in	60 lbs/in	45 lbs/in	45 lbs/in
3/16 #10	NF	3/8	31 lbs/in	24 lbs/in	48 lbs/in	36 lbs/in	68 lbs/in	51 lbs/in	51 lbs/in
1/4	NC	3/8	66 lbs/in	49 lbs/in	96 lbs/in	76 lbs/in	144 lbs/in	108 lbs/in	108 lbs/in
1/4	NF	3/8	75 lbs/in	56 lbs/in	120 lbs/in	87 lbs/in	168 lbs/in	120 lbs/in	120 lbs/in
5/16	NC	3/8	132 lbs/in	96 lbs/in	204 lbs/in	156 lbs/in	300 lbs/in	216 lbs/in	216 lbs/in
5/16	NF	3/8	144 lbs/in	108 lbs/in	228 lbs/in	168 lbs/in	324 lbs/in	240 lbs/in	240 lbs/in
3/8	NC	1/2	20 lbs/ft	15 lbs/ft	31 lbs/ft	23 lbs/ft	44 lbs/ft	33 lbs/ft	33 lbs/ft
3/8	NF	1/2	23 lbs/ft	17 lbs/ft	35 lbs/ft	26 lbs/ft	49 lbs/ft	37 lbs/ft	37 lbs/ft
7/16	NC	1/2	32 lbs/ft	24 lbs/ft	49 lbs/ft	37 lbs/ft	70 lbs/ft	52 lbs/ft	52 lbs/ft
7/16	NF	1/2	36 lbs/ft	27 lbs/ft	55 lbs/ft	41 lbs/ft	78 lbs/ft	58 lbs/ft	58 lbs/ft
1/2	NC	1/2	49 lbs/ft	37 lbs/ft	75 lbs/ft	55 lbs/ft	106 lbs/ft	80 lbs/ft	80 lbs/ft
1/2	NF	1/2	55 lbs/ft	41 lbs/ft	85 lbs/ft	65 lbs/ft	120 lbs/ft	90 lbs/ft	90 lbs/ft
9/16	NC	1/2	70 lbs/ft	53 lbs/ft	110 lbs/ft	80 lbs/ft	154 lbs/ft	115 lbs/ft	115 lbs/ft
9/16	NF	1/2	78 lbs/ft	59 lbs/ft	120 lbs/ft	90 lbs/ft	171 lbs/ft	128 lbs/ft	128 lbs/ft
5/8	NC	1/2	97 lbs/ft	73 lbs/ft	150 lbs/ft	113 lbs/ft	212 lbs/ft	159 lbs/ft	159 lbs/ft
5/8	NF	1/2	110 lbs/ft	82 lbs/ft	170 lbs/ft	130 lbs/ft	240 lbs/ft	180 lbs/ft	180 lbs/ft
3/4	NC	1/2	172 lbs/ft	129 lbs/ft	267 lbs/ft	200 lbs/ft	376 lbs/ft	282 lbs/ft	282 lbs/ft
3/4	NF	1/2	192 lbs/ft	144 lbs/ft	300 lbs/ft	220 lbs/ft	420 lbs/ft	315 lbs/ft	315 lbs/ft
7/8	NC	1/2	167 lbs/ft	125 lbs/ft	230 lbs/ft	170 lbs/ft	320 lbs/ft	240 lbs/ft	240 lbs/ft
7/8	NF	1/2	184 lbs/ft	138 lbs/ft	260 lbs/ft	190 lbs/ft	360 lbs/ft	270 lbs/ft	270 lbs/ft
1	NC	1/2	250 lbs/ft	187 lbs/ft	350 lbs/ft	260 lbs/ft	480 lbs/ft	360 lbs/ft	360 lbs/ft
1	NF	1/2	280 lbs/ft	210 lbs/ft	400 lbs/ft	300 lbs/ft	540 lbs/ft	400 lbs/ft	400 lbs/ft
1 1/8	NC	1/2	354 lbs/ft	266 lbs/ft	490 lbs/ft	370 lbs/ft	680 lbs/ft	510 lbs/ft	510 lbs/ft
1 1/8	NF	1/2	397 lbs/ft	298 lbs/ft	530 lbs/ft	400 lbs/ft	740 lbs/ft	560 lbs/ft	560 lbs/ft
1 1/4	NC	1/2	500 lbs/ft	373 lbs/ft	530 lbs/ft	400 lbs/ft	840 lbs/ft	630 lbs/ft	630 lbs/ft
1 1/4	NF	1/2	553 lbs/ft	417 lbs/ft	580 lbs/ft	450 lbs/ft	930 lbs/ft	700 lbs/ft	700 lbs/ft
1 3/8	NC	1/2	655 lbs/ft	491 lbs/ft	680 lbs/ft	520 lbs/ft	1100 lbs/ft	830 lbs/ft	830 lbs/ft
1 3/8	NF	1/2	746 lbs/ft	559 lbs/ft	780 lbs/ft	600 lbs/ft	1250 lbs/ft	940 lbs/ft	940 lbs/ft
1 1/2	NC	1/2	869 lbs/ft	652 lbs/ft	900 lbs/ft	680 lbs/ft	1460 lbs/ft	1100 lbs/ft	1100 lbs/ft
1 1/2	NF	1/2	978 lbs/ft	734 lbs/ft	1020 lbs/ft	770 lbs/ft	1640 lbs/ft	1240 lbs/ft	1240 lbs/ft

## METRIC CHART

MAXIMUM TORQUE									
8.8			10.9			12.9			
Bolt size	Thread	Pitch (mm)	Tool size	Dry	Lubricated	Dry	Lubricated	Dry	Lubricated
M4	THICK	0.7	3/8	27 lbs/in	20 lbs/in	36 lbs/in	27 lbs/in	43 lbs/in	32 lbs/in
M4	THIN	0.5	3/8	30 lbs/in	22 lbs/in	40 lbs/in	30 lbs/in	48 lbs/in	36 lbs/in
M5	THICK	0.8	3/8	54 lbs/in	40 lbs/in	72 lbs/in	54 lbs/in	86 lbs/in	65 lbs/in
M5	THIN	0.5	3/8	62 lbs/in	46 lbs/in	83 lbs/in	62 lbs/in	99 lbs/in	74 lbs/in
M6	THICK	1.00	3/8	92 lbs/in	69 lbs/in	120 lbs/in	92 lbs/in	144 lbs/in	108 lbs/in
M6	THIN	0.75	3/8	96 lbs/in	76 lbs/in	132 lbs/in	96 lbs/in	156 lbs/in	120 lbs/in
M8	THICK	1.25	3/8	228 lbs/in	168 lbs/in	300 lbs/in	228 lbs/in	360 lbs/in	264 lbs/in
M8	THIN	1.0	3/8	240 lbs/in	180 lbs/in	324 lbs/in	240 lbs/in	384 lbs/in	288 lbs/in
M10	THICK	1.5	1/2	37 lbs/ft	28 lbs/ft	49 lbs/ft	37 lbs/ft	59 lbs/ft	44 lbs/ft
M10	THIN	1.25	1/2	39 lbs/ft	29 lbs/ft	52 lbs/ft	39 lbs/ft	62 lbs/ft	47 lbs/ft
M12	THICK	1.75	1/2	64 lbs/ft	48 lbs/ft	86 lbs/ft	65 lbs/ft	103 lbs/ft	77 lbs/ft
M12	THIN	1.25	1/2	70 lbs/ft	53 lbs/ft	95 lbs/ft	71 lbs/ft	113 lbs/ft	85 lbs/ft
M14	THICK	2.0	1/2	102 lbs/ft	77 lbs/ft	138 lbs/ft	103 lbs/ft	164 lbs/ft	123 lbs/ft
M14	THIN	1.5	1/2	111 lbs/ft	83 lbs/ft	149 lbs/ft	112 lbs/ft	178 lbs/ft	133 lbs/ft
M16	THICK	2.0	1/2	159 lbs/ft	119 lbs/ft	214 lbs/ft	161 lbs/ft	255 lbs/ft	191 lbs/ft
M16	THIN	1.5	1/2	170 lbs/ft	128 lbs/ft	229 lbs/ft	172 lbs/ft	273 lbs/ft	205 lbs/ft
M18	THICK	2.5	1/2	227 lbs/ft	170 lbs/ft	296 lbs/ft	222 lbs/ft	352 lbs/ft	264 lbs/ft
M18	THIN	1.5	1/2	257 lbs/ft	193 lbs/ft	334 lbs/ft	250 lbs/ft	375 lbs/ft	281 lbs/ft
M20	THICK	2.5	1/2	322 lbs/ft	241 lbs/ft	418 lbs/ft	314 lbs/ft	499 lbs/ft	374 lbs/ft
M20	THIN	1.5	1/2	358 lbs/ft	269 lbs/ft	466 lbs/ft	349 lbs/ft	555 lbs/ft	417 lbs/ft
M22	THICK	2.50	1/2	439 lbs/ft	329 lbs/ft	571 lbs/ft	428 lbs/ft	680 lbs/ft	510 lbs/ft
M22	THIN	1.50	1/2	484 lbs/ft	386 lbs/ft	629 lbs/ft	472 lbs/ft	750 lbs/ft	562 lbs/ft
M24	THICK	3.00	1/2	556 lbs/ft	417 lbs/ft	723 lbs/ft	542 lbs/ft	862 lbs/ft	646 lbs/ft
M24	THIN	1.50	1/2	636 lbs/ft	477 lbs/ft	826 lbs/ft	620 lbs/ft	985 lbs/ft	739 lbs/ft

Thick nuts must be used with grade 8 bolts.

Use the above torques when special torque is not given.

Note : These values apply to fasteners as received from suppliers, dry, or when lubricated with normal engine oil. They do not apply if extreme pressure lubricants are used.

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# ***WARRANTY***

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Manufacturer warrants this product to the initial purchaser for the period of one year from the date of purchase against defects in materials and workmanship.

We will replace or repair defective parts free of charge if they are returned.

Transportation charges are the responsibility of the customer. This warranty is not transferable.

Hydraulic cylinders are covered by the manufacturer of these items.

The PTO shafts are warranted by the manufacturer and cover **only** defects in material and workmanship, and is conditional to recommended use and installation only.

No guarantee is granted on wear parts.

All manufacturer spare parts purchased are covered by a three (3) month warranty.

This warranty becomes void and nul if the equipment Is modified, breaks down as the result of an accident, is not operated according to manufacturer's recommendations, damaged by negligence or if Maintenance has not been carried out as specified.

Our obligation is limited to the replacement or repair of the defective part. manufacturer accepts no responsibility for direct or indirect consequential damages of any kind.