



## INSTALLATION & OPERATING INSTRUCTIONS

### E-45

## MEYER ELECTRONIC POWER PACK\*

● — Standard Duty — ● — Heavy Duty — ●

12 volt, Electric Hydraulic Power Unit — Single or Dual Valve

BEFORE BEGINNING THE INSTALLATION, CHECK THE PARTS IN THE KIT AGAINST THE PARTS LIST TO DETERMINE ALL ARE CORRECT AND INCLUDED; AND ALSO TO FAMILIARIZE YOURSELF WITH THEM.

### PARTS LIST

Item	3 Way		7 Way		Description	Item	3 Way		7 Way		Description
	Part No.	Qty	Part No.	Qty			Part No.	Qty	Part No.	Qty	
1	2015406	1	2015341	1	E-45 Standard Duty (Complete Kit)	30	-----	-	2021444	1	• Elbow 90° x 1/4
2	2015401	1	2015402	1	E-45 H Heavy Duty (Complete Kit)	31	-----	-	2021462	1	• Street Ell 90° x 1/4
3	2015409	1	2015410	1	• E-45 Standard Duty (Unit Only)	32	2015424	1	2015384	1	• Switch & Harness Assembly
4	2015461	1	2015460	1	• E-45 H Heavy Duty (Unit Only)	33	2021838	1	2021841	1	• Switch - Raise & Lower
5	2015422	1	2015353	1	• Valve Block Assembly	34	-----	-	2021840	1	• Switch - Angle
6	2015423	1	2015355	1	• Valve Block	35	2015425	1	2015368	1	• Harness Assembly
7	2015356	1	2015356	1	• Solenoid Valve Assembly "A"	36	2015371	1	2015371	1	• Fuse Assembly w/20 Amp. Fuse
8	2015393	1	2015393	1	• Cartridge 2-Way	37	-----	-	2015369	2	• Jumper Wire
9	2015392	1	2015392	1	• Coil Assembly	38	2015370	1	2015370	1	• Motor Solenoid - 12V "D"
10	2015431	1	2015431	1	• Seal Kit for Valve	39	2005023	1	2005023	1	• Motor Cable - 72"
11	-----	-	2015357	1	• Solenoid Valve Assembly "B"	40	2005024	1	2005024	1	• Power Cable - 38"
12	-----	-	2015380	1	• Cartridge 3-Way	41	2005024	1	2005024	1	• Ground Cable - 36"
13	-----	-	2015382	1	• Coil Assembly	42	2015102	1	2015102	1	• Bolt - 5/16 - 18 x 1/2
14	-----	-	2015432	1	• Seal Kit for Valve	43	2021400	1	2021400	1	• Washer 5/16 Int./Ext. Tooth
15	-----	-	2015360	1	• Filter Assembly	44	-----	-	2015134	1*	• Fluid - Quart
16	-----	-	2021845	1	• O-Ring	45	-----	-	2015386	2	• Hose - 1/4 x 18"
17	-----	-	2021528	1	• Swivel Fitting 1/4 x 1/4	46	-----	-	2015387	1	• Bracket - P. A.
18	-----	-	2021282	2	• Elbow 90° x 1/4	47	2015243	1	2015243	1	• PARTS GROUP
19	-----	-	2015347	1	• Power Angling Valve Block Assembly	48	2020027	1	2020027	1	• Bolt - H 5/16 - 18 x 1
20	-----	-	2015364	1	• Valve Block P. A.	49	2020304	1	2020304	1	• Locknut - 5/16 - 18
21	-----	-	2015358	1	• Solenoid Valve Assembly "C"	50	2021398	2	2021398	2	• Screw - 14 - 10 x 3/4
22	-----	-	2015381	1	• Cartridge 4-Way	51	2021400	1	2021400	1	• Washer - 5/16 Int./Ext. Tooth
23	-----	-	2015430	1	• Coil Assembly	52	2015428	1	2015346	1	• BAG - HARDWARE
24	-----	-	2015433	1	• Seal Kit For Valve	53	2015429	1	2015374	1	• Switch Bracket w/Decal
25	-----	-	2015078	2	• Ball - 5/32	54	2021747	1	2021743	1	• Decal
26	-----	-	2015144	2	• Spring Guide	55	2015375	1	2015375	1	• Handle - Yellow
27	-----	-	2015057	2	• Spring	56	-----	-	2015376	-	• Handle - Black
28	-----	-	2015122	2	• O-Ring	57	2021392	2	2021392	2	• Screw - #8 x 1/2 Self Tapping
29	-----	-	2015058	2	• Plug	58	2021632	1	2021832	2	• Bushing
	-----	-	2021276	1	• Pipe Plug 1/4	59	-----	-	2015385	1	• BAG - HARDWARE
	-----	-	2015365	1	• Spring	60	-----	-	2020049	2	• Bolt - H 3/8 - 16 x 1
	-----	-	2005083	1	• Ball - 3/8	61	-----	-	2020060	2	• Bolt - H 3/8 - 16 x 1-1/4
	-----	-	2015366	1	• Piston Assembly		-----	-	2020314	2	• Locknut - 3/8 - 16
	-----	-	2015126	1	• O-Ring		-----	-	2021083	2	• Washer - 3/8
	-----	-	2015359	1	• Plug 3/4 - 16		-----	-	2021435	2	• Street Ell - 45° x 1/4
	-----	-	2021504	1	• Pipe Nipple 1/4 x 1-1/2		-----	-	2021528	2	• Swivel Fitting - 1/4 x 1/4

\*2 Quarts with Heavy Duty E-45H

Item	ST-60 to 90		ST-96 to 102 and HST-76 & 90		ST-108 and 120		Description
	Part No.	Qty	Part No.	Qty	Part No.	Qty	
62	2005569	1	2005438	1	2015040	1	POWER ANGLING CARTON
63	2005810	2	-----	-	-----	-	• Cylinder - 1-1/2" Dia. x 10" Stroke
64	-----	-	-----	-	2005752	2	• Cylinder - 2" Dia. x 12" Stroke
65	2015135	2	2005437	2	-----	-	• Cylinder - 1-1/2" Dia. x 12" Stroke
66	2005481	1	2015135	2	2015135	2	• Hose - 1/4 x 42"
67	2015072	2	2005480	1	2005480	1	• HARDWARE BAG
68	2020147	4	2015072	2	2015072	2	• Coupler 1/4
69	-----	-	-----	-	-----	-	• Bolt - H 5/8-11 x 3-1/2
70	2020318	4	2020149	4	2020149	4	• Bolt - H 5/8 - 11 x 4
71	2021374	2	2020318	4	2020318	4	• Locknut - 5/8 - 11
72	2021444	1	2021374	1	2021374	1	• Pipe Nipple - 1/4 Close
73	2021462	3	2021444	1	2021444	1	• Elbow - 90° x 1/4
	2021504	2	2021462	3	2021462	3	• Street Ell 90° x 1/4
	-----	-	2021504	2	2021504	2	• Pipe Nipple - 1/4 x 1-1/2
	-----	-	2020357	2	2020357	2	• Flat Washer 5/8

\*Use only when 2005437 cylinder is used.

PARTS INDENTED ARE INCLUDED IN THE ASSEMBLY UNDER WHICH THEY ARE INDENTED

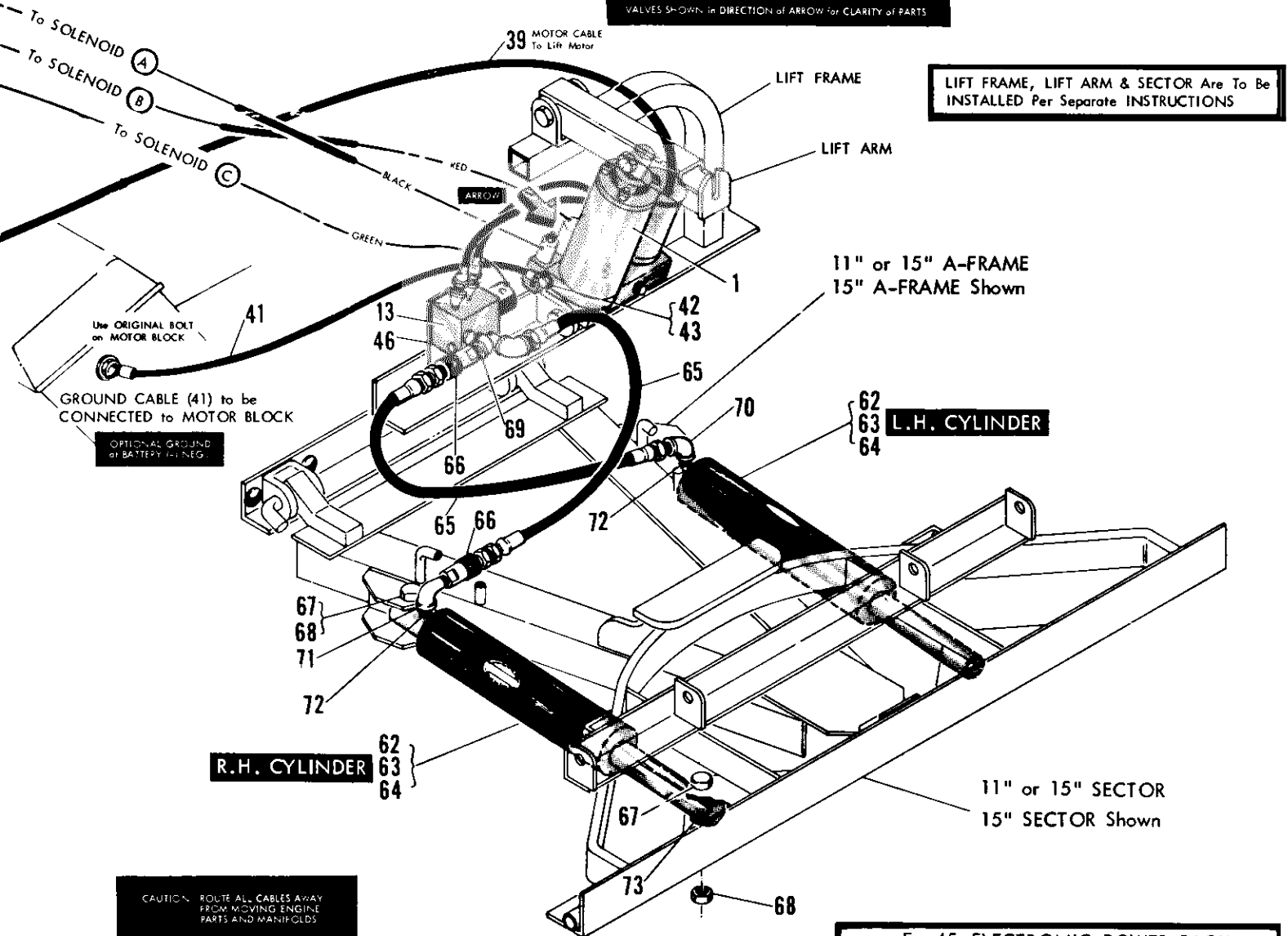
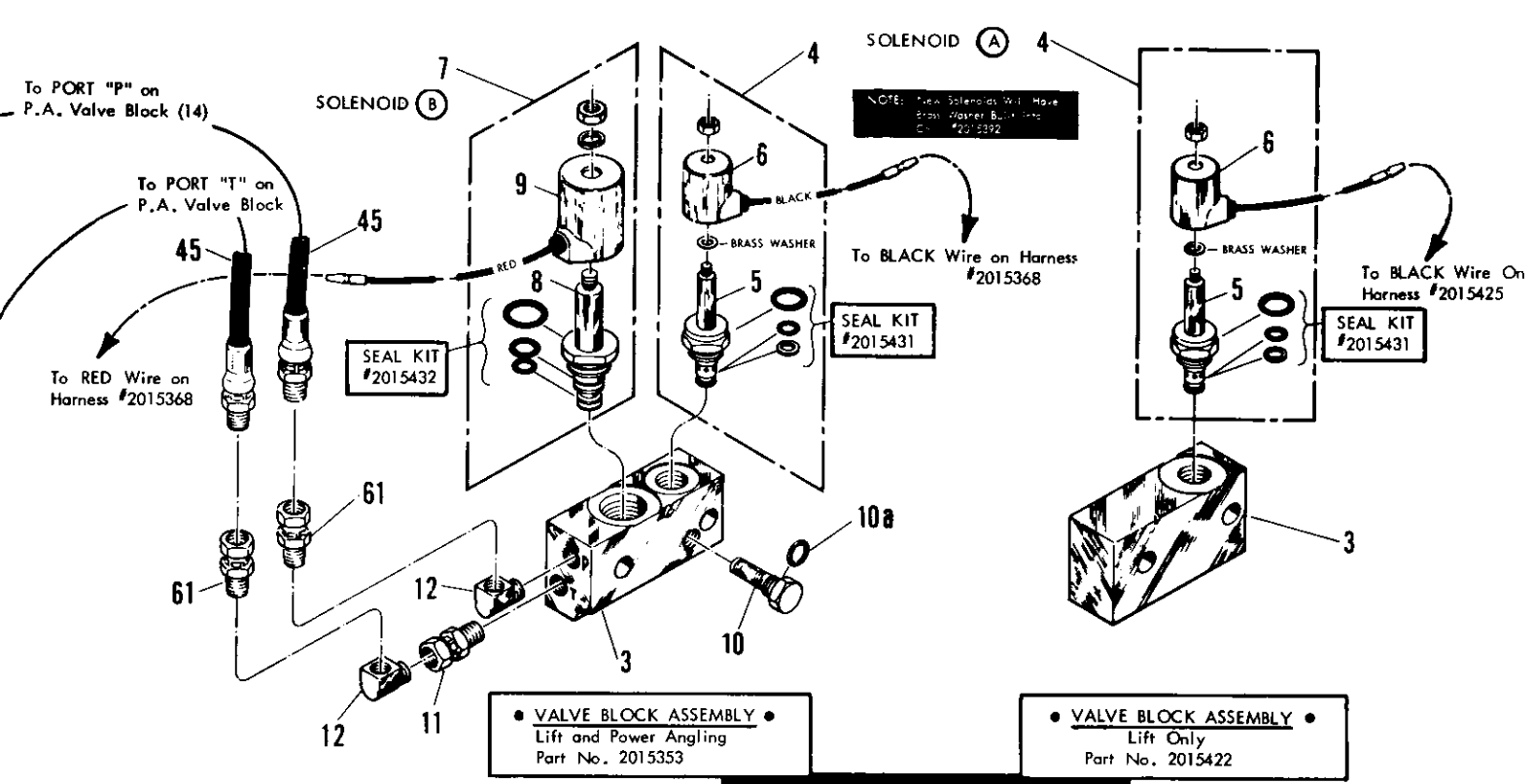
IMPORTANT: Order Parts by Part Number and Name. Always specify Model and Year of Vehicle.

Meyer Products reserves the right, under its continuing product improvement program, to change construction or design details, specifications and prices without notice or without incurring any obligation.

FOLLOW THESE INSTRUCTIONS IMPLICITLY. WARRANTY DOES NOT APPLY TO A MEYER PRODUCT WHICH HAS BEEN NEGLIGENTLY OR IMPROPERLY ASSEMBLED OR INSTALLED.

THE VEHICLE MUST BE EQUIPPED WITH A "HEAVY DUTY BATTERY" ( 70 AMP. HR. MIN.)  
"ALTERNATOR" ( 60 AMP. MIN.) TO OBTAIN MAXIMUM PERFORMANCE





**E - 45 ELECTRONIC POWER PACK  
ELECTRICAL and HYDRAULIC SCHEMATIC**

## GENERAL INFORMATION

- The E-45 MEYER ELECTRONIC POWER PACK has been carefully assembled, tested and is ready for installation. USE only on vehicles equipped with 12 Volt, negative ground electrical systems.
- SAFETY PRECAUTIONS should always be used when Electronic Power Pack is in OPERATION and when plow is in a RAISED position. Always LOWER plow to ground when vehicle is PARKED.
- SERVICE INFORMATION on the Cylinder, Motor, Pump is covered on Form 1-501 R2-S.

## GENERAL INSTRUCTIONS

- "DISCONNECT BATTERY" prior to installation.
- Install Lift Assembly (1) with Solenoids and Valve FACING the grille of vehicle.
- INSTALL Controls (32) in a suitable location on Dash Panel, with or without Switch Bracket (51).

## CHARGING and BLEEDING of CYLINDERS and LINES --- with POWER ANGLING

- Remove FILLER PLUG from Power Pack Lift (1) Reservoir, to enable FLUID (44) to be added during CHARGING and BLEEDING, Refer to Schematic.
- Maintain a continual "CHECK" on "FLUID LEVEL".
- Temporarily loosen the Female Coupler (66) at the R. H. Cylinder and Hose (65) at the L. H. Cylinder.
- Angle the Plow in both directions repeatedly with the Electronic Power Pack, until FLUID (44) leaks out at both points in a steady flow.
- Retighten the Coupler (66) and Hose (65).
- PROPER FLUID LEVEL is "ONE INCH BELOW TOP of FILLER HOLE". It must be CHECKED with Lift Ram FULLY Retracted. OVER or UNDER FILLING may cause DAMAGE and will IMPEDE performance of the Electronic Power Pack.

## OPERATING INSTRUCTIONS

- While plowing, leave toggle in "FLOAT" position to enable the plow to follow ground contour.

- "RAISE" control ---- to RAISE plow, hold "YELLOW LIFT" toggle (52) in UPWARD position until the plow has reached the desired height. When released, the toggle will self return to "HOLD" position.
- "LOWER" control ---- to LOWER or put down in the "FLOAT" position, push "YELLOW LIFT" toggle (52) "DOWNWARD" where it will stay until manually returned to "HOLD" or "RAISE".
- "ANGLE" Control ---- to ANGLE plow "LEFT" or "RIGHT", move "BLACK ANGLE" Toggle (53) until plow has reached desired angle. Toggle will self-return to "HOLD" position.

## GENERAL MAINTENANCE

- CLEANLINESS ---- should be stressed at the time of INSTALLATION, SERVICING, REPAIRING.
- Maximum performance and efficiency requires that the vehicle's ELECTRICAL SYSTEM be properly maintained.
- CHECK PERIODICALLY:
  - Battery terminals "MUST BE CLEAN."
  - All electrical connections "MUST BE TIGHT".
  - The Battery must be in "FIRST CLASS CONDITION".
  - The alternator (or Generator) and Regulator must be "FUNCTIONING to FACTORY SPECIFICATIONS".

## POST SEASON MAINTENANCE

- AFTER Snow Plowing Season, do the following:
  - DRAIN and REPLACE the Electronic Power Pack Fluid (44).
  - NOTE: Electronic Power Pack Fluid contains an ANTI - FREEZE additive which is approximately effective for ONE SEASON of use. Usage of OTHER OILS or FLUIDS will "VOID" the Meyer Warranty.
  - Fully extend the Lift, Arm, coat the Rod with grease and leave in this position. Fully extended position, FILLS the cylinder with the FLUID which prevents internal rust and corrosion.
  - When the Plow is equipped with POWER ANGLING, coat the exposed portions of the P.A. Cylinder rods with grease to prevent rust and corrosion.

## E-45

### MEYER ELECTRONIC POWER PACK\*

Standard Duty

Heavy Duty

ST-60, 72, 78, 84, 90

ST-96, 102, 108, 120

12 volt, Electric Hydraulic Power Unit —Single or Dual Valve

ITEM	STANDARD DUTY		HEAVY DUTY		QTY	DESCRIPTION
	1-1/8" x 6" Stroke		1-1/8" x 8" Stroke			
	3 Way	7 Way	3 Way	7 Way		
1	2015153		2015153		1	Pump & Motor Assembly
2	2015054		2015054		1	. Motor - 12 Volt
3	2015026		2015026		1	. Pump Assembly
4*	2015090		2015090		1	. . Seal - Shaft
5	2015045		2015204		1	Tank - Cylinder
6*					1	O - Ring 3-1/2" I.D. x 3/32" Dia.
7*					1	O - Ring 1-15/16" I.D. x 3/32" Dia.
8*					1	O - Ring 1-1/8" I.D. x 1/8" Dia.
9	2015194		2015194		1	Cover & Seal Assembly
10*	2005119		2005119		1	. Seal - Ram
11	2021862		2021862		1	Valve - Pressure Relief
12*					1	. O - Ring 3-1/2" I.D. x 3/32" Dia.
14	2015199		2015199		1	. Sleeve
15	2015207		2015205		1	Cylinder
16	2015209		2015209		1	Washer
17	2015335		2015336		1	Ram Assembly
18	2015158		2015158		1	. Piston
19	2015219		2015219		1	. Piston Follower
20*					1	. Cup - Packing
21*					1	. O - Ring 7/16" I.D. x 1/16" Dia.
22	2020307		2020307		1	. Locknut 1/2-13
23	2020697		2020697		3	Locknut 5/16-24
24	2015421	2015351	2015415	2015416	1	Base & Strainer Assembly
25	2015326		2015326		1	. Strainer - Base
26	2015042		2015203		3	Stud
27	2015043		2015043		3	Stud
28	2015051		2015051		1	Insert - Valve
29	2015052		2015052		1	Ball - 3/16
30	-----	2015354	-----	2015354	1	Plug - Adapter
31	2015110		2015110		1	Spring - Guide
32	2015111		2015111		1	Spring
33	2015116		2015116		1	Retainer - Check Valve
34*	4 Req'd		6 Req'd		--	O - Ring 1/4" I.D. x 1/16" Dia.
35*					2	O - Ring 3/8" I.D. x 1/16" Dia.
36	2021283	-----	2021283	-----	2	Socket Hd. Screw - 5/16 - 18 x 1-1/4"
37	-----	2021826	-----	2021826	2	Socket Hd. Screw - 5/16 - 18 x 1-1/2"
38*					2	O - Ring 5/8" I.D. x 1/16" Dia.
39	2015267		2015267		1	Nut - Cap
40	2015268		2015268		1	Washer
41	2021662	-----	2021662	-----	1	Plug - Pipe 1/8"
42	2020697		2020697		3	Locknut - 5/16 - 24
43	2015134		2015134		1	Fluid - Hydraulic, One Quart
44 +	2015422	2015353	2015422	2015353	1	Valve Assembly

+ PARTS AND SEAL KITS are shown in Form No. 1 - 501 R2

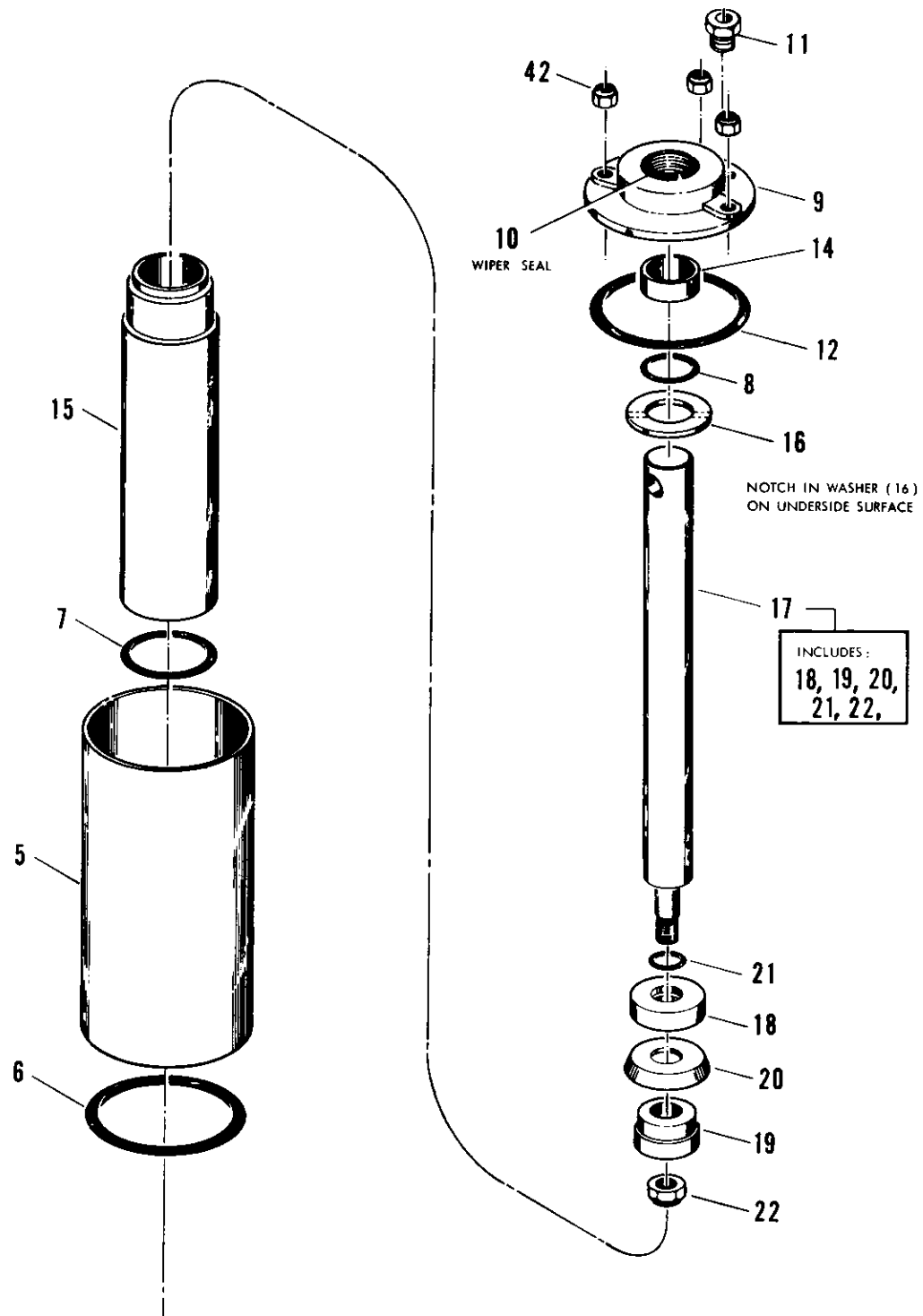
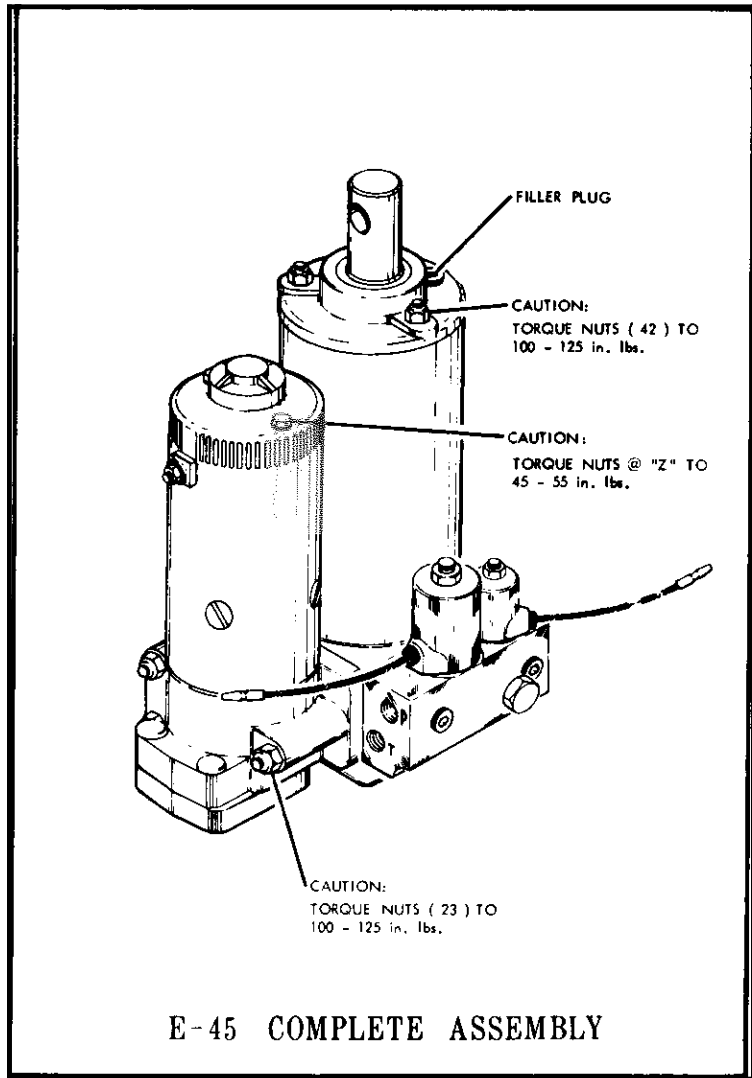
\* PARTS INCLUDED in SEAL KIT, Part No. 2015254, POWER PACK ONLY.

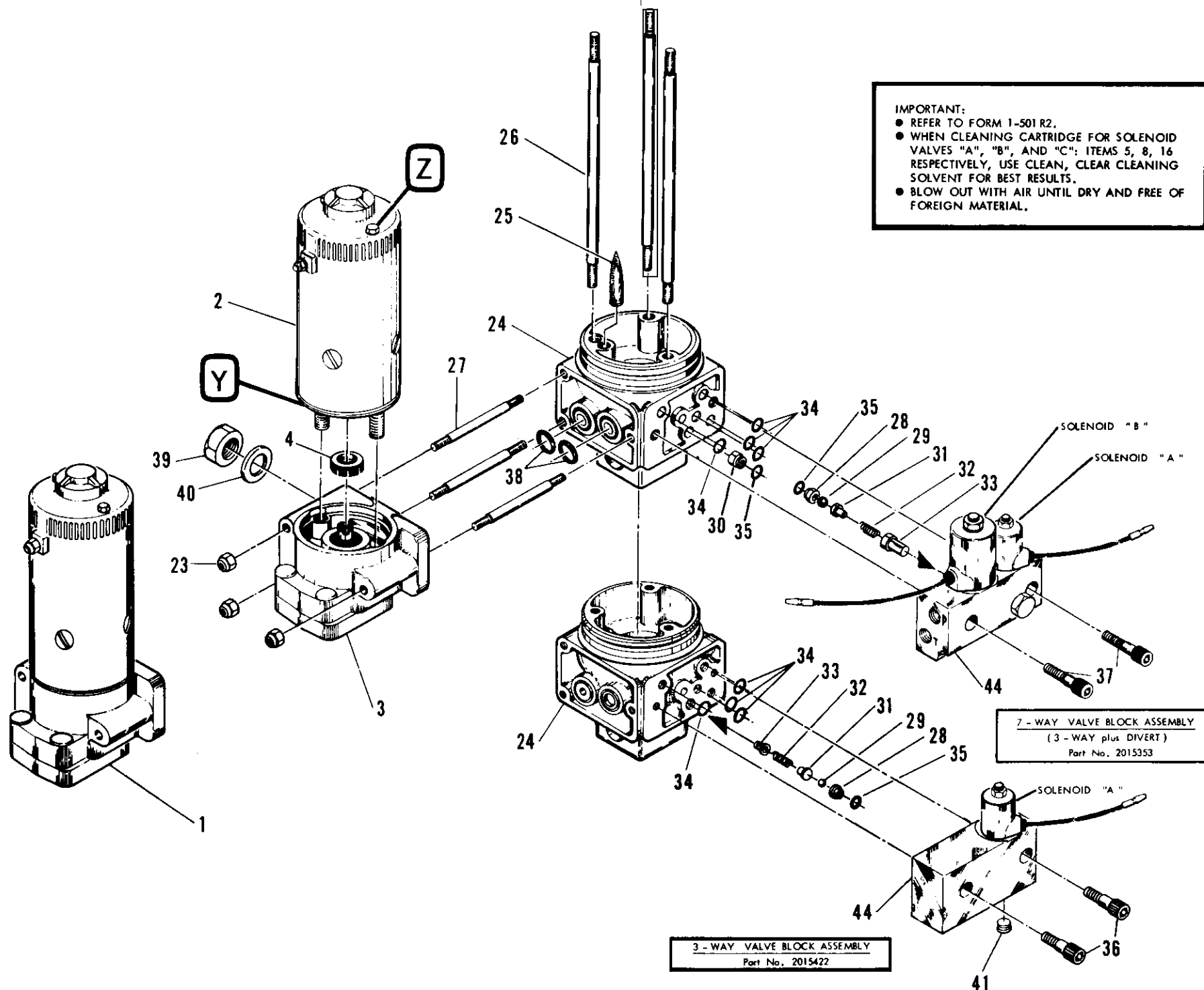
MASTER SEAL KIT, Part No. 2015456, is the combination of the two SEAL KITS listed above. This KIT is required for a complete overhaul, and includes one (1) Quart of POWER PACK FLUID.

PARTS INDENTED ARE INCLUDED IN THE ASSEMBLY UNDER WHICH THEY ARE INDENTED.

IMPORTANT: Order Parts by Part Number and Description. Always specify MODEL and YEAR of the VEHICLE.

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## GENERAL INFORMATION

Before the Electronic Power Pack is disassembled for repairs, make certain that all the possibilities of troubleshooting have been checked. Refer to Form Number 1-501 R2 and Service Bulletin No. 45. This information may indicate the possible trouble and eliminate the necessity for disassembly.

## SEAL KIT

If this unit is to be overhauled, it is recommended that the Master Seal Kit, Part No. 2015456 be purchased beforehand. This Kit contains all necessary seals for completely rebuilding this unit. Individual seal kits are also available.

NOTE: DO NOT REUSE OLD O-RINGS.

## DISASSEMBLY AND INSPECTION OF UNIT

Prior to disassembly, drain fluid from the Lift by removing Filler Plug (11). Clamp base (24) firmly into vise. Removal of subassemblies is as follows:

1. COVER ASSEMBLY, TANK, RAM and CYLINDER PARTS:  
Remove three locknuts (42) at reservoir top.
2. MOTOR from PUMP:  
Loosen Motor (2) Mounting bolts at "Z" but DO NOT REMOVE.  
NOTE: Make certain that the motor end plate at "Y" is held in place during and after removal of motor from pump. Temporarily install two 1/4-20 nuts on the motor mounting bolts to keep motor intact.  
NOTE: These nuts must be removed when reinstalling motor to pump.
3. PUMP from BASE:  
Remove the three locknuts (23).
4. VALVE BLOCKS from BASE:  
Remove socket head capscrews (36 or 37).

## SUBASSEMBLIES DISASSEMBLY AND INSPECTION

1. COVER ASSEMBLY, TANK, RAM and CYLINDER PARTS:  
Check Reservoir Top Cover (9) and Base (24) castings for cracks and damage. Inspect Wiper Seal (10) pressed in cover (9) for cuts and nicks on the sealing lip. Inspect nylon sleeve (14), piston (18) and piston follower (19), in Cup (20) for excessive wear. Inspect cylinder (15) for scoring and pitting in bore. Inspect Ram (17) for nicks and rust. Inspect Piston Packing Cup (20) for wear or a cut sealing lip.  
NOTE: The Top Cover (9) is available only with the Wiper Seal (10) pressed in place. This Seal is available separately, and is included in the Seal Kit, Part Number 2015254.
2. MOTOR (2):  
Complete motor assemblies only are available from Meyer Products. Service and repair parts can be purchased from your nearest authorized Prestolite or American Bosch Service Stations.
  - Prestolite motor can be identified by a "Domed Top Cover" and name "Prestolite" stamped on motor body.
  - American Bosch motors have a "Flat Top Cover" and no identifying marks.

### 3. PUMP (3):

Do not at anytime disassemble this pump. This will void the warranty. Proper assembly and adjustment cannot be accomplished without special tools and instruments. The damaged Pump Drive Shaft Seal (4) may be removed by careful extraction with a pointed tool. Dip new seal in oil and slip over pump shaft with lip down. Press into Pump Housing (3), flush to 1/32 inch below face of boss.

### 4. VALVE BLOCK 3-WAY ASSEMBLY:

Refer to Form No. 1-501 R2, for Part No. 2015422.

- Remove and clean Solenoid Valve Assembly "A" (4) and inspect for external damage.
- NOTE: DO NOT DISASSEMBLE CARTRIDGE (5).
- Test Coil (6) for electrical continuity. Nominal Coil resistance is 8.5 ohms. Refer to Form No. 1-501 R2 for the individual Seal Kit Part Numbers.

#### IMPORTANT:

- Before reinstalling the "A" Coil (6), make certain the Internal Brass Washer is on the mounting stud. In the early solenoid valves, this brass washer will be loose. In the later solenoid valves, the brass washer will be built into the Coil (6) under the mounting hole.
  - To reassemble, carefully guide the Coil (6) over the Valve Cartridge (5) and be certain to use the original External Brass Washer or the Brass Nut.
5. VALVE BLOCK 7-WAY ASSY. 3-WAY + DIVERT (44)  
Refer to Form No. 1-501 R2 (item 7) Part No. 2015353.
    - Repeat step 4 for the 3-WAY Solenoid Valve "A".
    - Remove and clean Solenoid Valve Assembly "B" (7) and inspect for external damage. Test Coil (9) for electrical continuity. Nominal Coil resistance is 3.5 ohms. Refer to Form No. 1-501 R2 to obtain the Seal Kit Number. Also, remove and clean Filter Screen (item 10).
  6. POWER ANGLING BLOCK ASSEMBLY (P. A.)  
Refer to Form No. 1-501 R2 (item 13) Part No. 2015347.
    - Remove and clean Solenoid Valve Assembly "C" (15) and inspect for external damage. Test Coil (17) for electrical continuity. Nominal Coil resistance is 3.5 ohms. Refer to Form 1-501 R2 for Seal Kit Number.
  7. PILOT OPERATED CHECK VALVE  
Refer to Form No. 1-501 R2, (items 23, 24, 25, 26, 28).  
Remove Plug (28) and the Piston Assembly (26). Inspect the Piston bore for freedom from foreign material and scratches. Piston (26) must move freely within its bore. Remove Plug (23), Spring (24) and Ball (25). Inspect Spring for damage and examine ball seat for nicks.
  8. CROSS OVER RELIEF VALVE  
Refer to Form No. 1-501 R2, (items 18, 19, 20, 21, 22).
    - Remove End Cap (22). Pull out Spring (20), Guide (19), and Ball (18). Follow the same procedure for removal of the other Cross-Over Relief Valve. Inspect cavities for dirt and damaged Ball Seats. Reseat if necessary.
  9. PUMP CHECK VALVE
    - 3-WAY Valve Block Assembly: Remove items 28, 29, 31, 32, 33, 35, from the Base (24).
    - 7-WAY Valve Block Assembly: Remove items 28, 29, 31, 32, 33, 35, from Valve Block (44).Inspect all parts for dirt, and damage to either Base (24) or Valve Block (44).

## UNIT REASSEMBLY

Before reassembling, make certain that all components and subassemblies are clean and free from all dirt and other foreign material. Use new Seals and Fluid when reassembling unit.