## **BULLETIN NO.** 54-10-2720

## SERVICE PARTS LIST

Milwaukee

CATALOG NO.

SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS

M18™ FUEL™ 1/2" Super-Hawg®

2709-20

**STARTING** 

SERIAL NO

**G60A** 

July 2015 WIRING INSTRUCTION

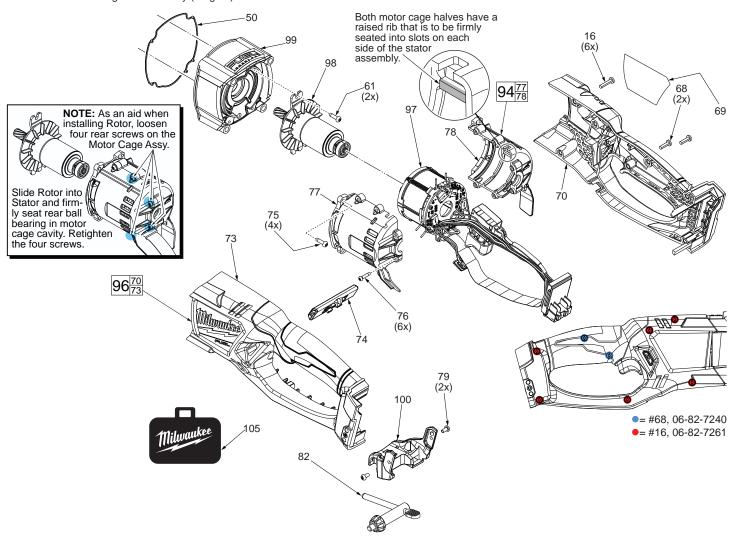
**SEE PAGE 4** 

DATE

REVISED BULLETIN

**EXAMPLE:** 

00 0 Component Parts (Small #) Are Included When Ordering The Assembly (Large #).



| FIG. | PART NO.   | DESCRIPTION OF PART                        | NO. REQ. |
|------|------------|--|----------|
| 16   | 06-82-7261 | 6-19 x .687 Pan Hd. Slt. Plast. T-15 Screw | (6)      |
| 50   | 43-44-0705 | Gasket                                     | (1)      |
| 61   | 06-82-5314 | 10-24 x 1/2" Pan Hd. Tapt. T-25 Screw      | (2)      |
| 68   | 06-82-7240 | 6-19 x .5 Pan Hd. Slt. Plast. T-15 Screw   | (2)      |
| 69   | 12-20-0077 | Service Nameplate                          | (1)      |
| 70   |            | Right Handle Halve (Cover)                 | (1)      |
| 72   | 45-30-1000 | Rubber Slug                                | (2)      |
| 73   |            | Left Handle Halve (Support)                | (1)      |
| 74   | 42-42-0017 | Forward/Reverse Shuttle                    | (1)      |
| 75   | 06-82-5285 | 6-32 x .5 Pan Hd. Tapt. T-15 Screw         | (4)      |
| 76   | 06-82-1080 | M3 x 14mm T-10 ST Screw                    | (6)      |
| 77   |            | Motor Cage Cover - Left                    | (1)      |
| 78   |            | Motor Cage Support - Right                 | (1)      |
| 79   | 06-82-0130 | 6-32 x 5/16" Pan Hd. T-15 Machine Screw    | (2)      |
| 82   | 48-66-3280 | Chuck Key                                  | (1)      |
| 94   | 23-16-0205 | Motor Cage Assembly                        | (1)      |
| 96   | 31-44-1095 | Handle Assembly                            | (1)      |
| 97   | 14-20-2709 | Electronics Assembly                       |          |
|      |            | Contains: Stator, PCBA, On-Off Switch,     |          |
|      |            | LED, Battery Connector Block               | (1)      |
| 98   | 16-01-2709 | Rotor Assembly                             | (1)      |
| 99   | 14-13-0055 | Diaphragm Assembly with Needle Bearing     | s (1)    |
| 100  | 43-72-0077 | Key Holder Assembly                        | (1)      |
| 105  | 42-55-3565 | FUEL™ Contractor Bag - Large               | (1)      |

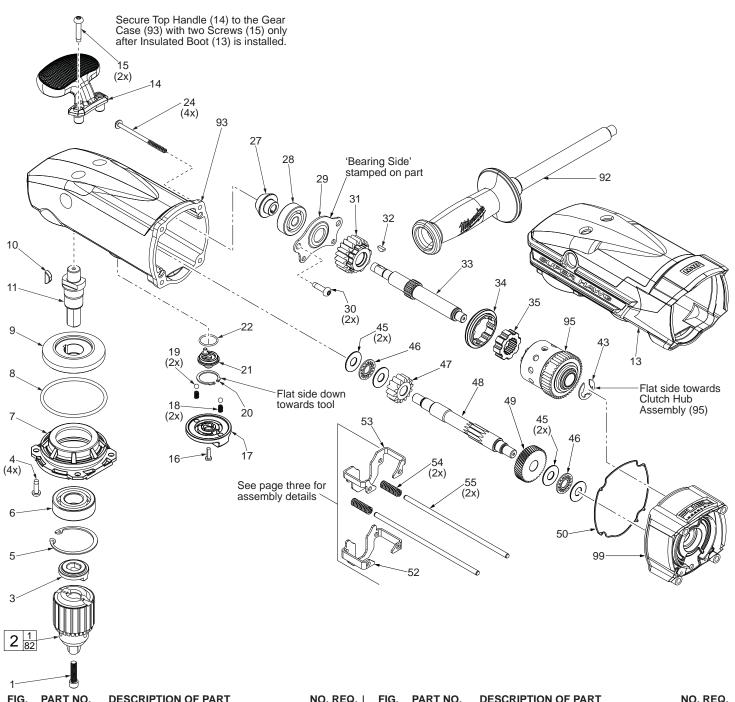
## **IMPORTANT!**

To prevent damage to the High Voltage Wire Assembly, a component in the Electronics Assembly #97, see service note on page 4 prior to removing the Motor Cage Cover #77.

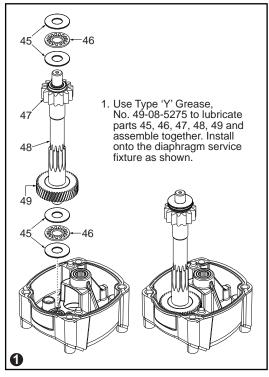
| SCREW TORQUE CHART |             |               |                      |         |  |  |  |  |  |
|--------------------|-------------|---------------|----------------------|---------|--|--|--|--|--|
|                    |             |               | Seat Torque          |         |  |  |  |  |  |
| Item               | Part Number |               | (Kg./cm.) (In./lbs.) |         |  |  |  |  |  |
| 1                  | 06-75-3155  |               | 140-160              | 122-139 |  |  |  |  |  |
| 4                  | 06-82-5411  |               | 35-50                | 30-43   |  |  |  |  |  |
| 15                 | 05-88-9915  |               | 60-65                | 52-56   |  |  |  |  |  |
| 16                 | 06-82-7261  | For Shift Hub | 8-12                 | 7-10    |  |  |  |  |  |
| 16                 | 06-82-7261  | For Handle    | 12-17                | 10-14   |  |  |  |  |  |
| 24                 | 05-88-0510  |               | 30-45                | 26-39   |  |  |  |  |  |
| 30                 | 06-82-5360  |               | 75-86                | 65-74   |  |  |  |  |  |
| 61                 | 06-82-5314  |               | 46-58                | 40-50   |  |  |  |  |  |
| 68                 | 06-82-7240  |               | 12-17                | 10-14   |  |  |  |  |  |
| 75                 | 06-82-5285  |               | 12-17                | 10-14   |  |  |  |  |  |
| 76                 | 06-82-1080  |               | 7-13                 | 6-11    |  |  |  |  |  |
| 79                 | 06-82-0130  |               | 10-15                | 8-13    |  |  |  |  |  |

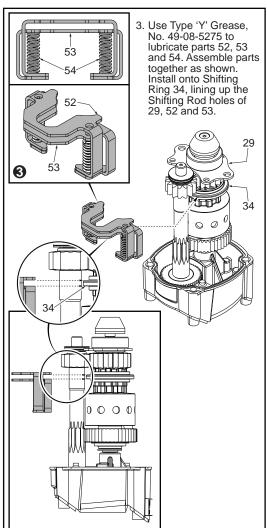
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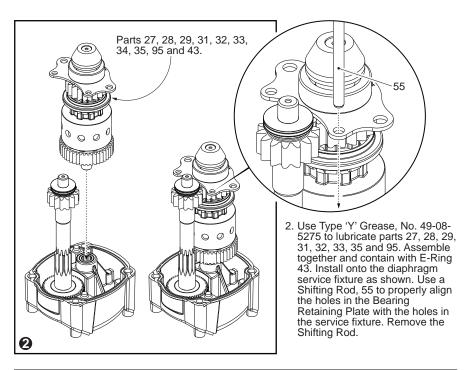


| FIG. | PART NO.   | DESCRIPTION OF PART                        | NO. REQ. | FIG. | PART NO.   | DESCRIPTION OF PART                      | NO. REQ. |
|------|------------|--|----------|------|------------|--|----------|
| 1    | 06-75-3155 | 1/4-20 x 1" Socket Head Screw-LH Thread    | (1)      | 29   | 44-66-1005 | Bearing Retaining Plate                  | (1)      |
| 2    | 48-66-1481 | 1/2" Keyed Chuck with Chuck Key & Screw    | (1)      | 30   | 06-82-5360 | 1/4-20 x .625 Pan Hd. Taptite T-30 Screw | (2)      |
| 3    | 28-53-0115 | Chuck Hub                                  | (1)      | 31   | 32-44-0500 | 2nd Intermediate Gear Assembly - High    | (1)      |
| 4    | 06-82-5411 | 10-24 x .625 Pan Hd. Taptite T-25 Screw    | (4)      | 32   | 06-42-0800 | Woodruff Key                             | (1)      |
| 5    | 34-80-2980 | Retaining Ring                             | (1)      | 33   | 36-66-0300 | 2nd Intermediate Shaft                   | (1)      |
| 6    | 02-04-2031 | Ball Bearing                               | (1)      | 34   | 42-90-0015 | Shifting Ring                            | (1)      |
| 7    | 28-53-0095 | Spindle Mounting Hub                       | (1)      | 35   | 43-12-0065 | Drive Hub                                | (1)      |
| 8    | 34-40-0005 | O-Ring                                     | (1)      | 43   | 34-60-1450 | E-Ring                                   | (1)      |
| 9    | 32-05-0400 | Bevel Gear                                 | (1)      | 45   | 45-88-0395 | Thrust Washer                            | (4)      |
| 10   | 06-42-2400 | Woodruff Key                               | (1)      | 46   | 02-80-0180 | Thrust Bearing                           | (2)      |
| 11   | 38-50-0027 | Spindle                                    | (1)      | 47   | 32-60-0405 | 2nd Intermediate Pinion - High           | (1)      |
| 13   | 45-12-0044 | Insulated Boot                             | (1)      | 48   | 32-60-0400 | 2nd Intermediate Shaft                   | (1)      |
| 14   | 31-44-2709 | Top Handle                                 | (1)      | 49   | 32-42-0200 | 1st Intermediate Gear                    | (1)      |
| 15   | 05-88-9915 | M5 x 1.23 x 25mm Pan Hd. DG T-25 Screw     | (2)      | 50   | 43-44-0705 | Gasket                                   | (1)      |
| 16   | 06-82-7261 | 6-19 x .687 Pan Hd. Slt. Plast. T-15 Screw | (1)      | 52   | 42-76-0281 | Short Shift                              | (1)      |
| 17   | 43-98-0067 | Shifting Knob                              | (1)      | 53   | 42-76-0271 | Long Shift                               | (1)      |
| 18   | 40-50-8690 | Detent Spring                              | (2)      | 54   | 40-50-0067 | Shifter Spring                           | (2)      |
| 19   | 02-02-1300 | Steel Ball                                 | (2)      | 55   | 44-94-0012 | Shifting Rod                             | (2)      |
| 20   | 44-86-0032 | Retaining Ring                             | (1)      | 92   | 14-34-0030 | Side Handle Assembly                     | (1)      |
| 21   | 28-53-0085 | Shifting Hub                               | (1)      | 93   | 14-30-0505 | Gearcase Assembly with Needle Bearings   | (1)      |
| 22   | 34-40-1570 | O-Ring                                     | (1)      | 95   | 14-08-2709 | Clutch Hub Assembly                      | (1)      |
| 24   | 05-88-0510 | M5 x 80mm Pan Hd. T-20 PT Screw            | (4)      | 99   | 14-13-0055 | Diaphragm Assembly with Needle Bearings  | s (1)    |
| 27   | 32-60-0280 | Bevel Pinion                               | (1)      |      |            |  |          |
| 28   | 02-04-1055 | Ball Bearing                               | (1) l    |      |            |  |          |





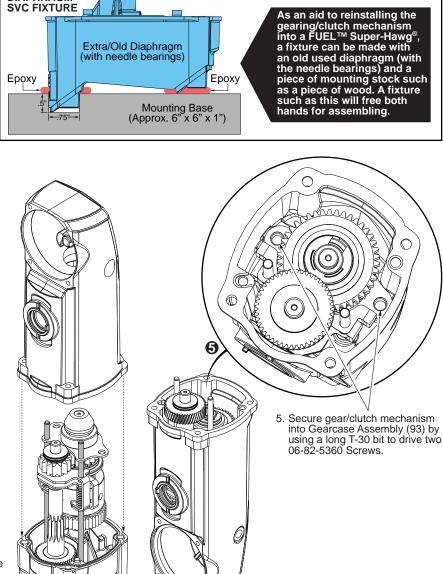
4. Carefully feed both Shifting Rods through the holes in the Bearing Retaining Plate and the Long and Short Shift Plates down into the corresponding holes in the service fixture. Carefully place the Gearcase Assembly over the gearing and onto the service fixture. Turn the assembly over and remove the diaphragm service fixture.

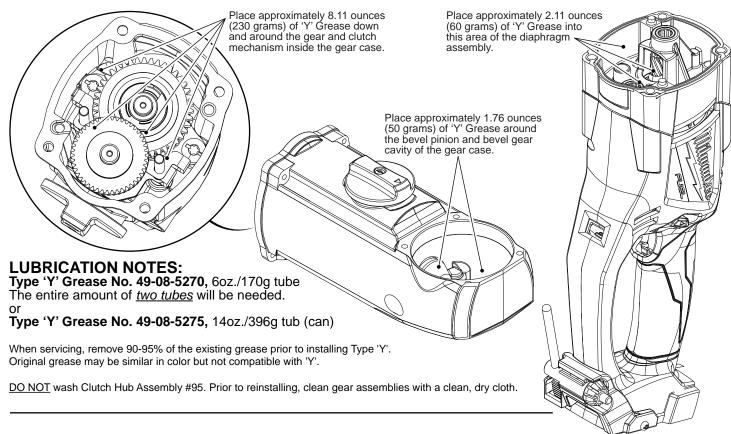


**DIAPHRAGM** 

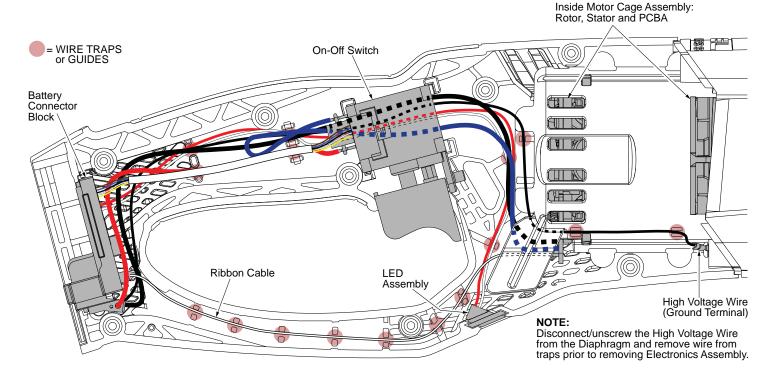
**SVC FIXTURE** 

Extra/Old Diaphragm (with needle bearings)





## **WIRING DIAGRAM**



AS AN AID TO REASSEMBLY, TAKE NOTICE OF WIRE ROUTING AND POSITION IN WIRE GUIDES AND TRAPS WHILE DISMANTLING TOOL.

BE SURE THAT ALL COMPONENTS OF THE ELECTRONICS KIT ARE SEATED FIRMLY AND SQUARELY IN THE HANDLE RECESSES.

AVOID PINCHED WIRES, BE SURE THAT ALL WIRES AND SLEEVES ARE PRESSED COMPLETELY DOWN IN WIRE GUIDES AND TRAPS.

PRIOR TO INSTALLING THE HANDLE COVER ONTO THE HANDLE SUPPORT, BE SURE THAT THERE ARE NO INTERFERENCES.