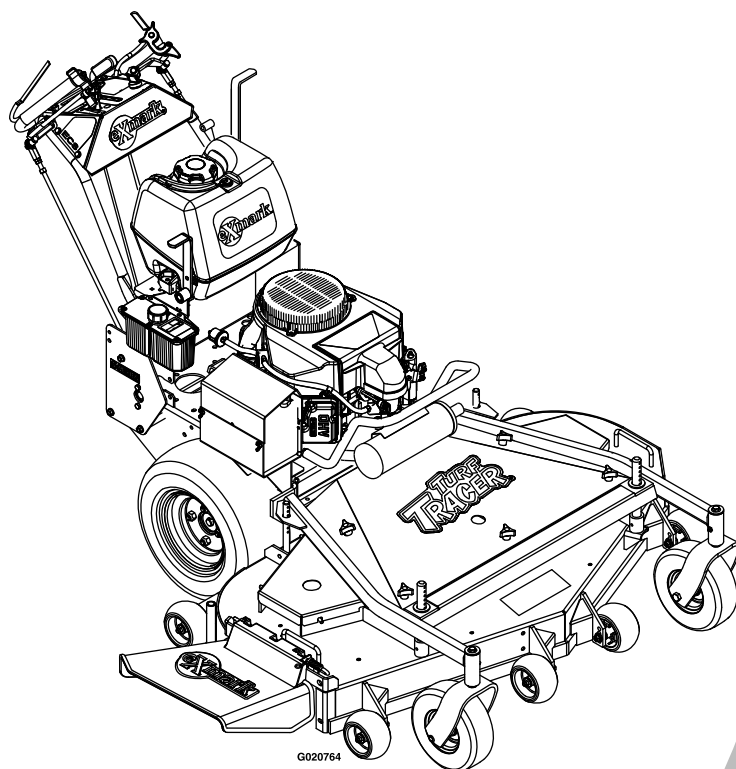




# **TURF TRACER® S-SERIES**

Model No. TTS481KA483—Serial No. 31300000 and Up

Picture below may not reflect actual product.



G020764

# Parts Manual

Part No. 4501-430 Rev. B

# Ordering Replacement Parts

To order replacement parts, please supply the part number, the quantity, and the description of each part desired.

## Understanding Reference Numbers

Each identified part in an illustration has a reference number. The reference number for a part also appears in the parts list, along with other information about the part.

This catalog uses two special reference number formats, one to indicate parts in a service assembly and another to indicate the quantity of a given part in an illustration.

## Service Assembly Reference Numbers

Parts in service assemblies have reference numbers in the form a:b. The a represents the reference number of the entire service assembly and the b represents a sequential number unique to each part within the service assembly.

For example, a wheel assembly might be identified by reference number 6, the tire by 6:1, the valve by 6:2, and the wheel by 6:3. When you order the assembly identified by reference number 6, you receive all parts identified by reference numbers 6:1, 6:2, and 6:3. However, you may also order any part individually. Reference numbers of this type appear in illustration and in parts lists.

## Reference Numbers Indicating Quantity

In an illustration, if a reference number indicates more than one part, the reference number has the form nX y. The n represents the quantity of the part, the X is the multiplication symbol, and the y represents the reference number.

For example, in an illustration, the reference number 2X 37 means that two of the parts identified by reference number 37 are indicated.

# List of Abbreviations

|  |  |  |
|--|--|--|
| <b>AR:</b> as required                       | <b>HJ:</b> hex jam                             | <b>PRH:</b> phillips round head          |
| <b>ASM:</b> assembly                         | <b>HLH:</b> hex lag head                       | <b>PTH:</b> phillips truss head          |
| <b>BBC:</b> blade brake control              | <b>HOC:</b> height-of-cut                      | <b>PTO:</b> power-take-off               |
| <b>BHTF:</b> button head thread forming      | <b>HSBH:</b> hex socket button head            | <b>RH:</b> right hand                    |
| <b>CARR:</b> carriage                        | <b>HSFH:</b> hex socket flat head              | <b>ROPS:</b> roll-over protection system |
| <b>CCW:</b> counter clockwise                | <b>HSH:</b> hex socket head                    | <b>RRB:</b> rear roller brush            |
| <b>CW:</b> clockwise                         | <b>HWH:</b> hex washer head                    | <b>SFH:</b> slotted fillister head       |
| <b>DEG:</b> degrees                          | <b>HWHTF:</b> hex washer head thread forming   | <b>SHH:</b> slotted hex head             |
| <b>DPA:</b> Dual Point Adjustment            | <b>HYD:</b> hydraulic                          | <b>SHWH:</b> slotted hex washer head     |
| <b>ECM:</b> electronic control module        | <b>LH:</b> left hand                           | <b>SPH:</b> slotted pan head             |
| <b>EXT:</b> external                         | <b>LP:</b> Liquefied Petroleum Gas             | <b>SQH:</b> square head                  |
| <b>FH:</b> flat head                         | <b>LPG:</b> Liquefied Petroleum Gas            | <b>SRH:</b> slotted round head           |
| <b>GA:</b> gauge                             | <b>NI:</b> nylon insert                        | <b>STD:</b> standard                     |
| <b>HD:</b> heavy-duty                        | <b>NPTF:</b> national pipe thread fine         | <b>TAP:</b> self tapping                 |
| <b>HF:</b> hex flange                        | <b>PFH:</b> phillips flat head                 | <b>TTH:</b> torx truss head              |
| <b>HH:</b> hex head                          | <b>PPH:</b> phillips pan head                  |  |
| <b>HHF:</b> hex head flange                  | <b>PPHTF:</b> phillips pan head thread forming |  |
| <b>HHFTF:</b> hex head flange thread forming |  |  |

# Touch Up Paint

Exmark black touch up spray paint – gloss black.

Exmark red touch up paint (spray paint – P/N 1-850337 - .6 oz liquid bottle – P/N 103-9140).

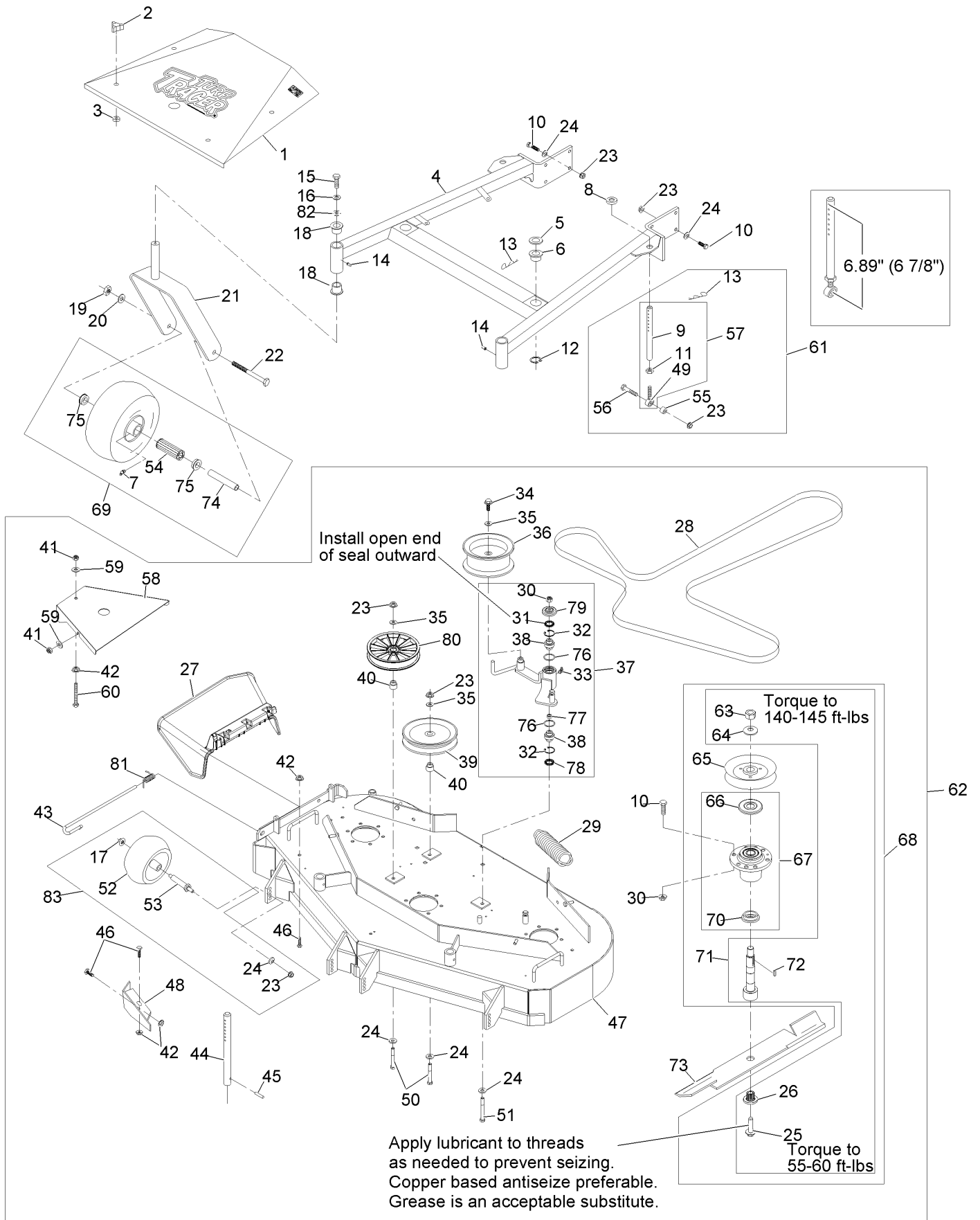


If your Exmark dealer does not have the Exmark part in stock, Exmark will get the parts to the dealer the next business day or the part will be FREE Guaranteed!! (Some restrictions apply. See your participating Exmark Dealer for details.)

## Contents

|   |    |
|---|----|
| Mower Deck Assembly .....                     | 4  |
| Engine Deck Assembly .....                    | 6  |
| Engine Deck Assembly (cont) .....             | 8  |
| ECS Upper Handles and Controls Assembly ..... | 10 |
| Fuel Tank Assembly .....                      | 12 |
| Electrical Assembly .....                     | 13 |
| Decals .....                                  | 14 |
| Hydraulic Assembly .....                      | 16 |

# Mower Deck Assembly



## Mower Deck Assembly (continued)

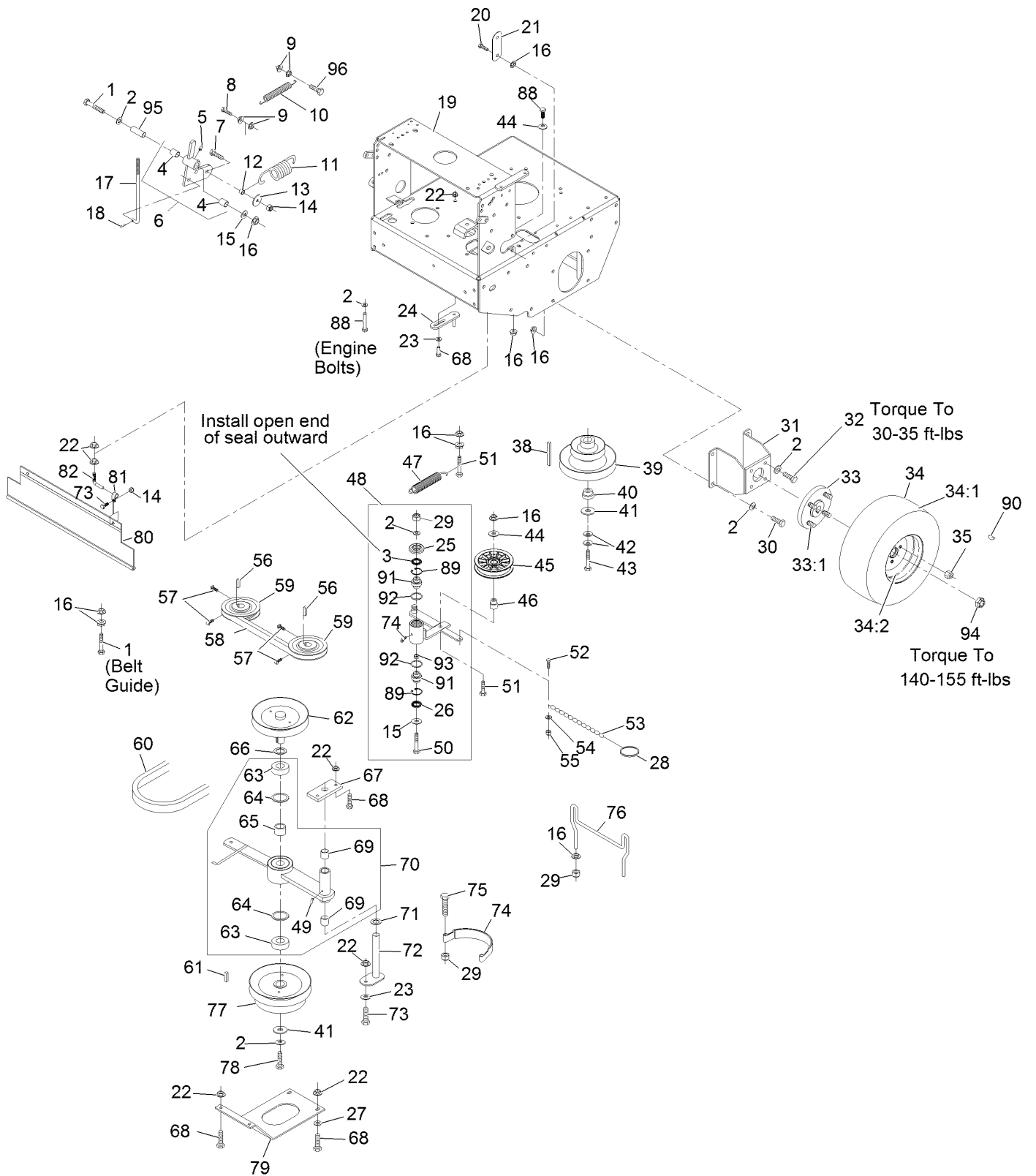
| Ref. | Part Number | Qty. | Description                              | Ref. | Part Number | Qty. | Description   |
|------|-------------|------|--|------|-------------|------|---|
| 1    | 116-2711    | 1    | Shield, Belt (1-413101-01)<br>W/Decals   | 47   | 1-414384    | 1    | Deck Weldmt W/Decals,<br>Discharge Baffle And<br>Support Rods |
| 2    | 1-323385    | 4    | Knob-3 Prong                             | 48   | 116-2297-01 | 1    | Baffle, Discharge   |
| 3    | 1-323417    | 4    | Washer-Belt Shield                       | 49   | 1-613204    | 2    | Balljoint   |
| 4    | 1-414310    | 1    | Support Wld W/Bushings<br>And Decals     | 50   | 323-13      | 2    | Screw-HH 3/8-16 X 2 3/4                                       |
| 5    | 1-413425    | 2    | Spacer                                   | 51   | 98-5961     | 1    | Screw-HH 3/8-16 X 4 Gr8                                       |
| 6    | 1-513336    | 2    | Bushing-Deck                             | 52   | 1-603299    | 4    | Roller-Scalp, Anti  |
| 7    | 302-61      | 2    | Zerk-45° 1/4-28                          | 53   | 99-2842     | 4    | Spacer  |
| 8    | 1-323539    | 2    | Spacer-Blade Drive                       | 54   | 1-513809    | 2    | Bearing   |
| 9    | 1-413525    | 2    | Link, Rear Deck Support                  | 55   | 1-603050    | 2    | Spacer  |
| 10   | 323-7       | 26   | Screw-HH 3/8-16 X 1 1/4                  | 56   | 323-9       | 2    | Screw-HH 3/8-16 X 1 3/4                                       |
| 11   | 3220-3      | 2    | Nut-Jam 3/8-24                           | 57   | 1-414521    | 2    | Link Assy   |
| 12   | 32120-33    | 2    | Ring-Retaining                           | 58   | 103-2970-01 | 2    | Shield, Belt  |
| 13   | 1-806009    | 4    | Hairpin-Cotter #206                      | 59   | 3256-3      | 6    | Washer-5/16 Std   |
| 14   | 302-52      | 2    | Zerk-1/8-27 Str                          | 60   | 1-800017    | 2    | Bolt-HH 5/16-18 X 3 1/4 Tap                                   |
| 15   | 323-6       | 2    | Screw-HH 3/8-16 X 1                      | 61   | 1-411532    | 2    | Kit, Support Link W/Pin                                       |
| 16   | 3253-5      | 2    | Washer-Lock 3/8 Heavy                    | 62   | 103-0321    | 1    | Assembly, Cutting Deck<br>Complete                            |
| 17   | 109-6658    | 4    | Nut-Nyloc 3/8-16 Flg                     | 63   | 3217-46     | 3    | Nut-Hex 3/4-16 Heavy  |
| 18   | 1-303514    | 4    | Bearing-Flanged                          | 64   | 103-2802    | 3    | Washer-Spring Disc 3/4  |
| 19   | 3217-9      | 2    | Nut-Hex 1/2-13                           | 65   | 1-413424    | 3    | Sheave, W/Hub 6 5/16"<br>O.D. ▲                               |
| 20   | 3253-7      | 2    | Washer-Lock 1/2                          | 66   | 103-1330    | 3    | Guard-Bearing Top ▲   |
| 21   | 1-522143-01 | 2    | Fork, Caster                             | 67   | 103-8280    | 3    | Asm, Cutter Housing<br>W/Bearings                             |
| 22   | 325-20      | 2    | Screw-HH 1/2-13 X 6                      | 68   | 103-9081    | 3    | Asm, Cutter Housing<br>Complete                               |
| 23   | 3290-357    | 13   | Nut-Whizlock 3/8-16                      | 69   | 103-2171    | 2    | Kit, Semi-Pneumatic Wheel<br>Replacement                      |
| 24   | 98-5975     | 15   | Washer-Spring Disc 3/8                   | 70   | 103-2535    | 3    | Spacer-Guard Bottom   |
| 25   | 109-9220    | 3    | Screw-Sems 1/2-20 X 2.19                 | 71   | 103-9071    | 3    | Kit, Spindle ▲  |
| 26   | 103-3037    | 3    | Bushing, Splined                         | 72   | 1-807268    | 3    | Key-Machine 1/4 X 3/16 X 1                                    |
| 27   | 109-5151    | 1    | Deflector-Discharge                      | 73   | 103-6401    | 3    | Blade-Notched ■   |
| 28   | 1-413093    | 1    | Belt, Deck Drive                         | 73   | 103-6391    | 3    | Blade, Mulching   |
| 29   | 103-3330    | 1    | Spring-Extension                         | 73   | 103-6386    | 3    | Blade, Low Lift   |
| 30   | 3296-39     | 19   | Nut-Nyloc 3/8-16                         | 73   | 103-6381    | 3    | Blade, Solid  |
| 31   | 103-3506    | 1    | Seal-Single Lip                          | 73   | 116-5177    | 3    | Blade-Extreme 2, 16.25"                                       |
| 32   | 32120-10    | 2    | Ring-Retaining                           | 74   | 1-513547    | 2    | Spacer  |
| 33   | 302-40      | 1    | Zerk-90° 1/4-28                          | 75   | 1-513810    | 4    | Bushing-Flanged   |
| 34   | 3234-11     | 1    | Screw-HH Flg 3/8-16 X 1                  | 76   | 106-7159    | 2    | O-Ring  |
| 35   | 3256-24     | 3    | Washer-3/8 Sae                           | 77   | 103-5677    | 1    | Spacer  |
| 36   | 116-4666    | 1    | Idler-Pulley, Flat                       | 78   | 103-3505    | 1    | Seal-Double Lip   |
| 37   | 103-8585    | 1    | Kit, Idler Arm (103-7356-03)<br>W/Brgs ● | 79   | 103-2916    | 1    | Guard-Top   |
| 38   | 103-3504    | 2    | Bearing-Spherical                        | 80   | 109-0977    | 1    | Pulley, Idler 5"  |
| 39   | 1-613098    | 1    | Pulley-Idler                             | 81   | 116-0962    | 1    | Spring, Torsion   |
| 40   | 1-413113    | 2    | Bushing-Idler                            | 82   | 1-373034    | 2    | Washer  |
| 41   | 3296-29     | 6    | Nut-Nyloc 5/16-18                        | 83   | 103-4051    | 1    | Kit, Antiscalp Roller   |
| 42   | 32128-20    | 3    | Nut-Whizlock 5/16-18                     |      |             |      |   |
| 43   | 109-8854    | 1    | Pin-Chute                                |      |             |      |   |
| 44   | 1-603001    | 2    | Rod, Deck Support                        |      |             |      |   |
| 45   | 1-806332    | 2    | Rollpin 1/4 X 1 1/2                      |      |             |      |   |
| 46   | 322-2       | 3    | Screw-HH 5/16-18 X 5/8                   |      |             |      |   |

● Assembly also includes Washer and Screw

■ Requires installation of mulch kit for proper mulching. See your Exmark dealer for details.

▲ Apply Mobil HTS grease (P/N 103-5217 1.5 oz packet) (or a food-grade anti-seize). See operator s manual for locations.

# Engine Deck Assembly



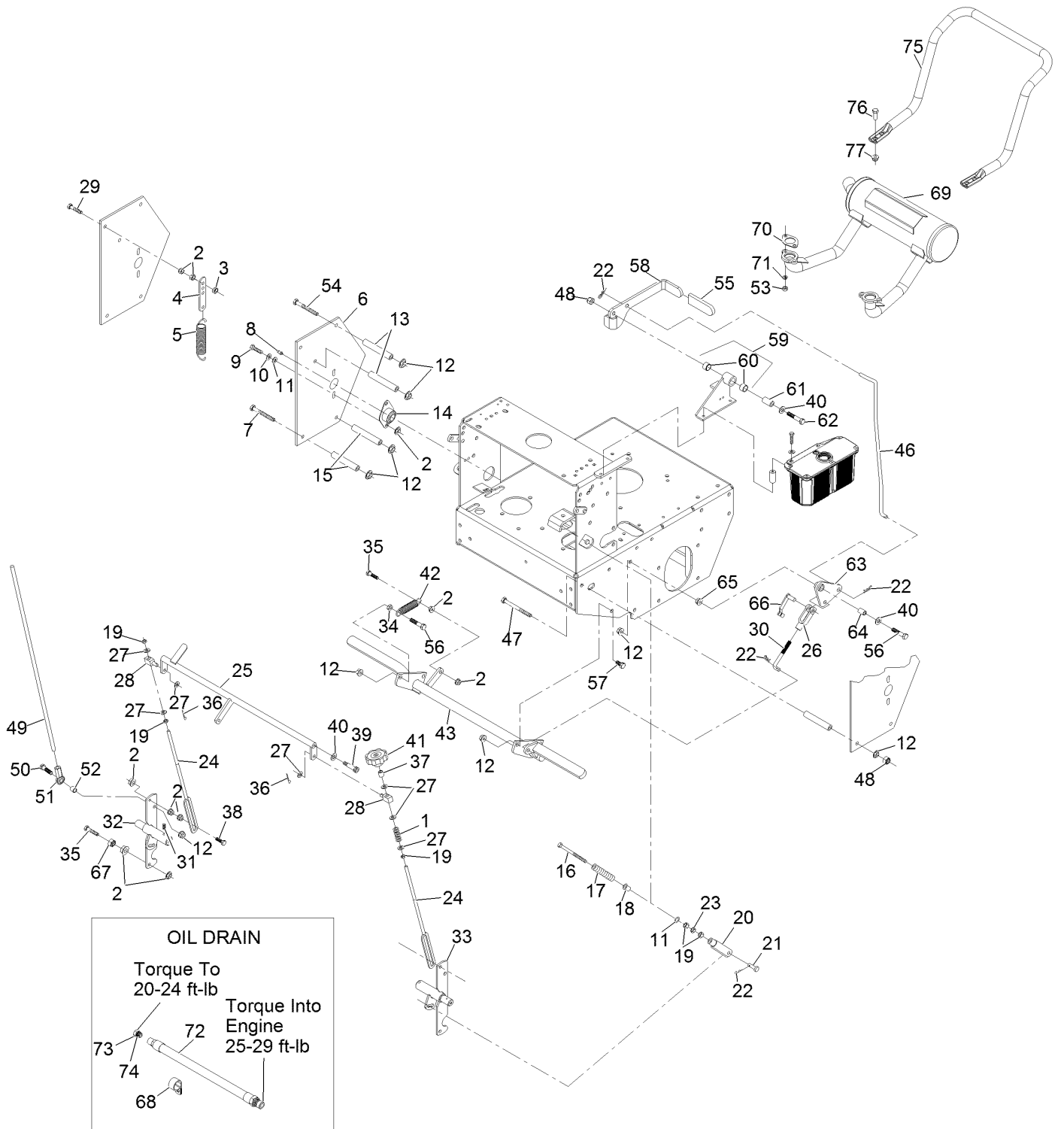
## Engine Deck Assembly (continued)

| <i>Ref.</i> | <i>Part Number</i> | <i>Qty.</i> | <i>Description</i>                  | <i>Ref.</i> | <i>Part Number</i> | <i>Qty.</i> | <i>Description</i>                     |
|-------------|--------------------|-------------|-------------------------------------|-------------|--------------------|-------------|--|
| 1           | 323-11             | 2           | Screw-HH 3/8-16 X 2 1/4             | 46          | 1-603496           | 1           | Bushing-Idler                          |
| 2           | 98-5975            | 23          | Washer-Spring Disc 3/8              | 47          | 103-8599           | 1           | Spring, Extension                      |
| 3           | 103-3506           | 1           | Seal-Single Lip                     | 48          | 109-1296           | 1           | Kit, Idler Arm (109-1208-03)<br>W/Brgs |
| 4           | 1-513034           | 2           | Sleeve-Bearing                      | 49          | 1481               | 2           | Zerk-45° 1/4-28                        |
| 5           | 302-19             | 1           | Zerk-1/4-28 Str                     | 50          | 98-5961            | 1           | Screw-HH 3/8-16 X 4 Gr8                |
| 6           | 1-414143           | 1           | Link Pivot W/Bearing                | 51          | 323-9              | 2           | Screw-HH 3/8-16 X 1 3/4                |
| 7           | 322-6              | 1           | Screw-HH 5/16-18 X 1 1/4            | 52          | 1-809069           | 1           | Screw-HSH #10-24 X 7/8                 |
| 8           | 321-6              | 1           | Screw-HH 1/4-20 X 1                 | 53          | 1-323365           | 1           | Chain-Link, Twist                      |
| 9           | 32128-33           | 4           | Nut-Whizlock 1/4-20                 | 54          | 3256-14            | 1           | Washer-#10 Std                         |
| 10          | 1-523498           | 1           | Spring, Motion Control              | 55          | 3296-2             | 1           | Nut-Nyloc #10-24                       |
| 11          | 103-7398           | 1           | Spring, Belt Tension                | 56          | 1-807272           | 2           | Key-5Mm X 5Mm X 25Mm                   |
| 12          | 1-543007           | 1           | Spacer                              | 57          | 120-6474           | 4           | Screw-Set, SQH 5/16-18 X<br>3/4 ■      |
| 13          | 1-213069           | 1           | Washer                              | 58          | 109-1057           | 1           | Belt, Pump Drive                       |
| 14          | 3296-29            | 3           | Nut-Nyloc 5/16-18                   | 59          | 1-413010           | 2           | Sheave ASM ●                           |
| 15          | 3256-4             | 2           | Washer-3/8 Std                      | 60          | 103-6317           | 1           | Belt, Blade Clutch                     |
| 16          | 3290-357           | 19          | Nut-Whizlock 3/8-16                 | 61          | 1-807259           | 1           | Key-Machine 1/4 X 1/4 X 1              |
| 17          | 1-413282           | 1           | Linkage, Lower                      | 62          | 103-6308           | 1           | Sheave W/Shaft ●                       |
| 18          | 1-806003           | 1           | Hairpin-Cotter                      | 63          | 1-413111           | 2           | Bearing, Clutch Shaft ●                |
| 19          | 116-6129           | 1           | Asm, Deck (116-6080-01)<br>W/Decals | 64          | 32120-8            | 2           | Ring-Retaining                         |
| 20          | 323-4              | 2           | Screw-HH 3/8-16 X 3/4               | 65          | 1-413012           | 1           | Spacer, Bearing Clutch                 |
| 21          | 1-633068           | 1           | Arm-Lift, Deck                      | 66          | 1-523157           | 1           | Washer                                 |
| 22          | 32128-20           | 11          | Nut-Whizlock 5/16-18                | 67          | 1-413049-01        | 1           | Plate, Clutch Pivot                    |
| 23          | 1-303334           | 2           | Washer-Spring Disc 5/16             | 68          | 322-5              | 7           | Screw-HH 5/16-18 X 1                   |
| 24          | 1-322110           | 1           | Guide-Belt                          | 69          | 1-413207           | 2           | Pivot, Bearing                         |
| 25          | 103-2916           | 1           | Guard-Top                           | 70          | 1-414418           | 1           | Clutch Arm W/Bearings                  |
| 26          | 103-3505           | 1           | Seal-Double Lip                     | 71          | 1-413235           | 1           | Washer, Spacer                         |
| 27          | 3256-3             | 2           | Washer-5/16 Std                     | 72          | 1-412138-03        | 1           | Pivot Pin Weldment                     |
| 28          | 1-323366           | 1           | Ring-Split                          | 73          | 322-3              | 3           | Screw-HH 5/16-18 X 3/4                 |
| 29          | 3296-39            | 5           | Nut-Nyloc 3/8-16                    | 74          | 1-413062           | 1           | Band, Brake Clutch                     |
| 30          | 323-6              | 8           | Screw-HH 3/8-16 X 1                 | 75          | 323-8              | 2           | Screw-HH 3/8-16 X 1 1/2                |
| 31          | 1-412082-01        | 2           | Mount, Wheel Motor 48"<br>And 52"   | 76          | 103-6310           | 1           | Wld, Belt Guide                        |
| 32          | 323-6              | 8           | Screw-HH 3/8-16 X 1                 | 77          | 1-412028           | 1           | Sheave W/Drum (48") ●                  |
| 33          | 112-9049           | 2           | Wheel Hub ASM                       | 78          | 1-800521           | 1           | Screw-HH 3/8-24 X 1 ■                  |
| 33:1        | 1-633926           | 8           | Stud-Wheel                          | 79          | 1-413009-01        | 1           | Plate, Guard                           |
| 34          | 1-613263           | 2           | Wheel And Tire ASM                  | 80          | 103-2056           | 1           | Shield-Drag                            |
| 34:1        | 1-613264           | 2           | Tire-Turfmaster                     | 81          | 1-413510           | 2           | Clip-Loom                              |
| 34:2        | 1-603715           | 2           | Wheel-Rim                           | 82          | 1-413511           | 2           | Hanger, Drag Shield                    |
| 35          | 242-50             | 8           | Nut-Lug 1/2-20                      | 88          | 323-7              | 5           | Screw-HH 3/8-16 X 1 1/4                |
| 38          | 1-807264           | 1           | Key-Machine 1/4 X 1/4 X 2<br>5/8    | 89          | 32120-10           | 2           | Ring-Retaining                         |
| 39          | 103-6309           | 1           | Asm, Drive Sheave ●                 | 90          | 1-807019           | 2           | Key-Woodruff 1 X 1/4                   |
| 40          | 1-603609           | 1           | Bushing, Clutch Keeper              | 91          | 103-3504           | 2           | Bearing-Spherical                      |
| 41          | 1-373034           | 2           | Washer                              | 92          | 106-7159           | 2           | O-Ring                                 |
| 42          | 1-603610           | 2           | Washer-Spring Disc 7/16             | 93          | 103-5677           | 1           | Spacer                                 |
| 43          | 3212-10            | 1           | Screw-HH 7/16-20 X 2 1/2 ■          | 94          | 116-2839           | 2           | Nut-Lock                               |
| 44          | 3256-24            | 2           | Washer-3/8 Sae                      | 95          | 1-603044           | 1           | Bushing                                |
| 45          | 109-4077           | 1           | Pulley-Idler, Flat                  | 96          | 321-8              | 1           | Screw-HH 1/4-20 X 1 1/4                |

● Apply anti-seize compound in bore.

■ Use Pro-Lock, Nut Type (P/N 1-840022, .5ml tube) on threads.

# Engine Deck Assembly (cont)





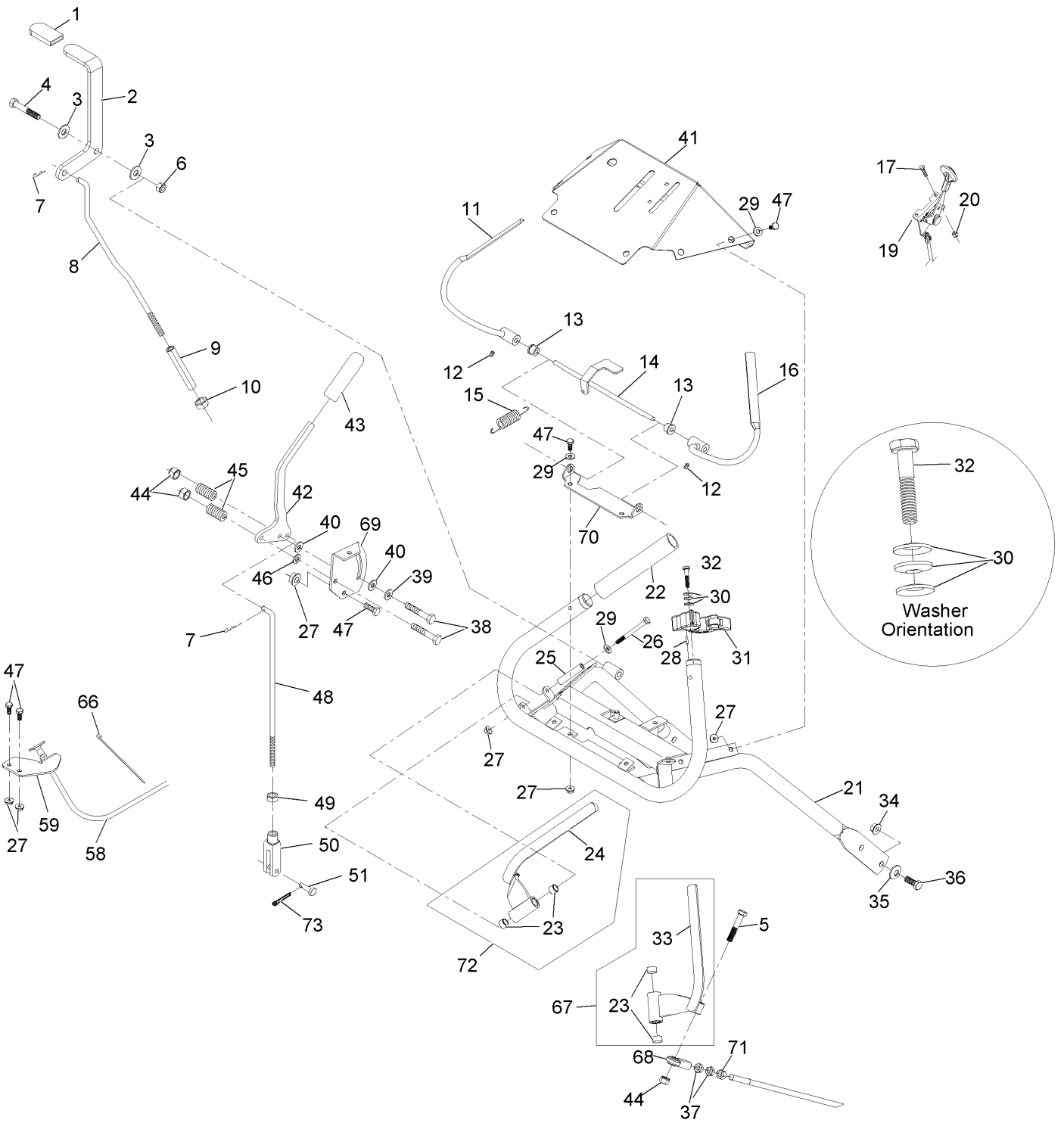
## Engine Deck Assembly (cont) (continued)

| <i>Ref.</i> | <i>Part Number</i> | <i>Qty.</i> | <i>Description</i>               | <i>Ref.</i> | <i>Part Number</i> | <i>Qty.</i> | <i>Description</i>                       |
|-------------|--------------------|-------------|----------------------------------|-------------|--------------------|-------------|--|
| 1           | 1-323245           | 1           | Spring-Compression               | 40          | 3256-24            | 4           | Washer-3/8 Sae                           |
| 2           | 32128-20           | 20          | Nut-Whizlock 5/16-18             | 41          | 103-3060           | 1           | Knob-Tracking                            |
| 3           | 3296-29            | 2           | Nut-Nyloc 5/16-18                | 42          | 1-323161           | 1           | Spring                                   |
| 4           | 1-613089           | 2           | Tab-Spring, Extension            | 43          | 103-2004-03        | 1           | Brake                                    |
| 5           | 1-603693           | 2           | Spring                           | 46          | 1-413492           | 1           | Linkage, Upper Brake                     |
| 6           | 110-4897-01        | 2           | Shield-Control                   | 47          | 323-23             | 1           | Screw-HH 3/8-16 X 4-1/2                  |
| 7           | 323-16             | 6           | Screw-HH 3/8-16 X 4              | 48          | 3296-39            | 2           | Nut-Nyloc 3/8-16                         |
| 8           | 302-19             | 2           | Zerk-1/4-28 Str                  | 49          | 103-1148           | 2           | Rod, Drive Lever                         |
| 9           | 322-3              | 4           | Screw-HH 5/16-18 X 3/4           | 50          | 323-8              | 2           | Screw-HH 3/8-16 X 1 1/2                  |
| 10          | 1-805005           | 4           | Washer-Lock 5/16 Heavy           | 51          | 103-1167           | 2           | Joint-Ball End, .38X.38Fe LH             |
| 11          | 3256-2             | 6           | Washer-1/4 Std                   | 52          | 103-1166           | 2           | Spacer-Tube, Pump Link                   |
| 12          | 3290-357           | 15          | Nut-Whizlock 3/8-16              | 53          | 114-3549           | 4           | Nut-M8                                   |
| 13          | 1-323195-01        | 4           | Spacer-Shield                    | 54          | 323-16             | 1           | Screw-HH 3/8-16 X 4                      |
| 14          | 1-633102           | 2           | Bearing-Flanged                  | 55          | 1-303020           | 1           | Grip-Lever                               |
| 15          | 1-323197-01        | 4           | Spacer-Shield                    | 56          | 323-9              | 2           | Screw-HH 3/8-16 X 1 3/4                  |
| 16          | 1-603737           | 2           | Bolt-Neutral Return              | 57          | 323-4              | 3           | Screw-HH 3/8-16 X 3/4                    |
| 17          | 103-0265           | 2           | Spring, Neutral Return           | 58          | 103-3495           | 1           | Lever, Park Brake (116-1725-03) W/Decals |
| 18          | 1-603735           | 2           | Bushing-Flanged                  | 59          | 1-414504           | 1           | Bracket ASM                              |
| 19          | 3219-2             | 7           | Nut-Hex 5/16-24                  | 60          | 1-413347           | 2           | Sleeve-Bushing                           |
| 20          | 1-303105           | 2           | Yoke-Adjustable                  | 61          | 1-413344           | 1           | Bushing-Pivot                            |
| 21          | 1-808280           | 2           | Pin-Clevis 5/16 X 1 49/64        | 62          | 323-10             | 1           | Screw-HH 3/8-16 X 2                      |
| 22          | 1-806003           | 5           | Hairpin-Cotter                   | 63          | 1-414508           | 1           | Bellcrank ASM                            |
| 23          | 3220-2             | 2           | Nut-Jam 5/16-24                  | 64          | 1-303548           | 1           | Bushing-Plastic                          |
| 24          | 1-413350           | 2           | Link-Control, Speed              | 65          | 32128-21           | 1           | Nut-3/8-16 Flanged Side Lock             |
| 25          | 1-412203-01        | 1           | Crank-Control, Speed             | 66          | 103-2399           | 1           | Pin-Clevis Spring 3/8                    |
| 26          | 1-633131           | 1           | Yoke-Linkage, Brake              | 67          | 3218-2             | 2           | Nut-Jam 5/16-18                          |
| 27          | 3256-23            | 7           | Washer-5/16 Sae                  | 68          | 1-643312           | 1           | Clip-Loom                                |
| 28          | 1-603676           | 2           | Swivel-Adjustable, Short         | 69          | 116-3735           | 1           | Muffler-Horizontal                       |
| 29          | 1-800016           | 2           | Bolt-HH 5/16-18 X 1 1/4 Tap      | 70          | 1-653313           | 2           | Gasket-Exhaust                           |
| 30          | 1-413489           | 1           | Linkage-Lower                    | 71          | 114-3550           | 4           | Washer-Lock, Spring                      |
| 31          | 1-803022           | 2           | Setscrew-5/16-18 X 5/8 ■         | 72          | 116-5052           | 1           | Asm-Oil Drain Hose W/Plug ●              |
| 32          | 103-1190-01        | 1           | Shaft-Control, LH                | 73          | 353-508            | 1           | Plug-W/O-Ring                            |
| 33          | 103-4796-01        | 1           | Shaft-Control, RH                | 74          | 237-42             | 1           | O-Ring                                   |
| 34          | 3218-3             | 1           | Nut-Jam 3/8-16                   | 75          | 116-6278-03        | 1           | Guard-Muffler                            |
| 35          | 116-3515           | 3           | Screw, HH Special 5/16-18 X 1.25 | 76          | 323-6              | 4           | Screw-HH 3/8-16 X 1                      |
| 36          | 3272-5             | 2           | Pin-Cotter 3/32 X 1/2            | 77          | 104-8301           | 4           | Nut-Nyloc 3/8-16 Flg                     |
| 37          | 1-603903           | 1           | Spacer                           |             |                    |             |  |
| 38          | 1-403180           | 2           | Screw-HH 5/16-18 X 1 3/8 Special |             |                    |             |  |
| 39          | 1-809056           | 2           | Screw-Sh 5/16-18 X 1 3/8 ■       |             |                    |             |  |

● Use a Teflon Pipe Sealant or equivalent on threads.

■ Use Pro-Lock, Nut Type (P/N 1-840022, .5ml tube) on threads.

# ECS Upper Handles and Controls Assembly

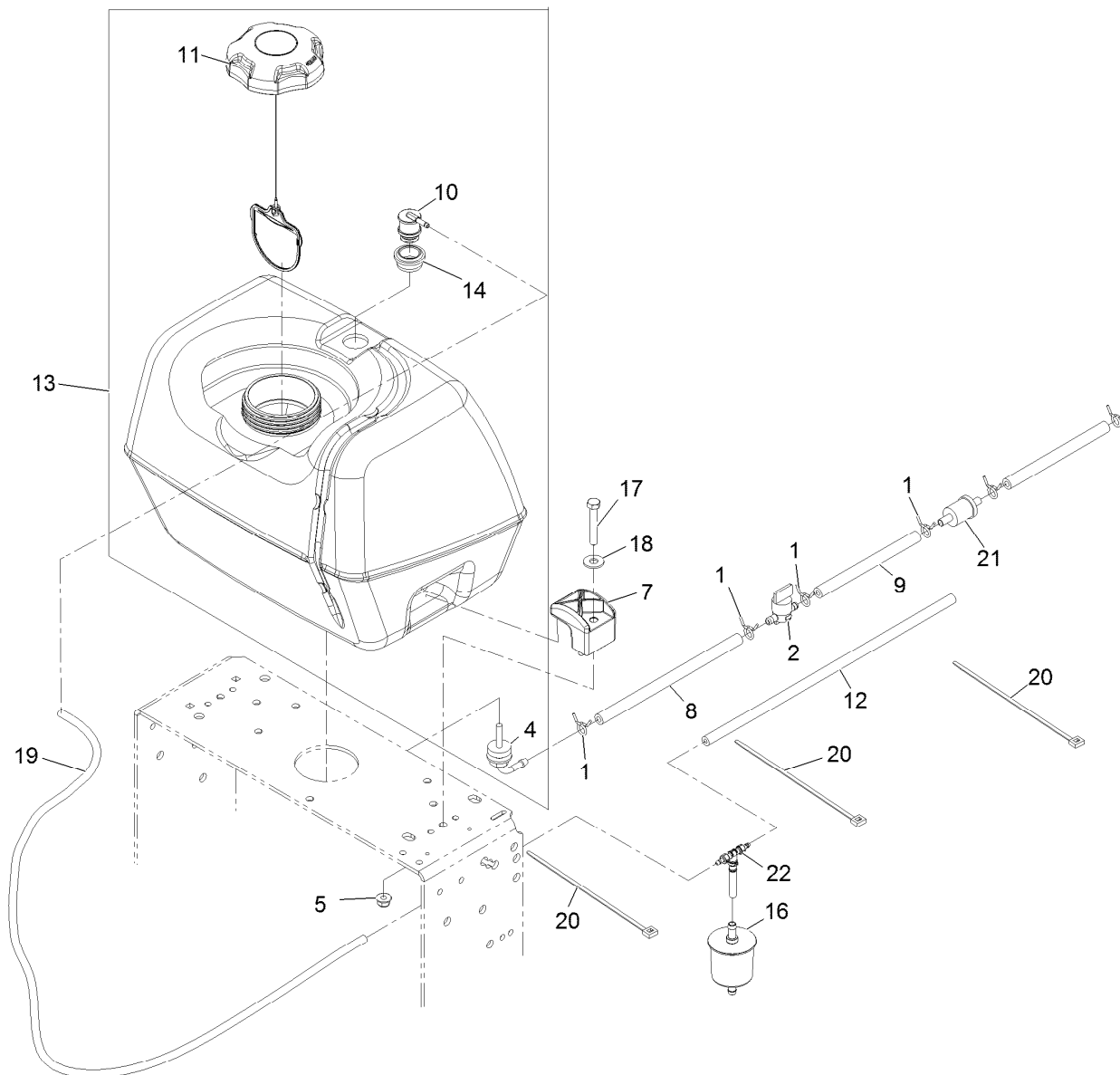


# ECS Upper Handles and Controls Assembly (continued)

| <i>Ref.</i> | <i>Part Number</i> | <i>Qty.</i> | <i>Description</i>              | <i>Ref.</i> | <i>Part Number</i> | <i>Qty.</i> | <i>Description</i>                  |
|-------------|--------------------|-------------|---------------------------------|-------------|--------------------|-------------|-------------------------------------|
| 1           | 1-303020           | 1           | Grip-Lever                      | 32          | 103-0235           | 2           | Screw-HH 1/4-20 X 1 1/8 W/Nylon ●   |
| 2           | 116-6334           | 1           | Asm, Lever (116-1736-03) W/Grip | 33          | 116-4082-03        | 1           | Lever, Drive RH                     |
| 3           | 3256-4             | 2           | Washer-3/8 Std                  | 34          | 3290-357           | 4           | Nut-Whizlock 3/8-16                 |
| 4           | 323-11             | 1           | Screw-HH 3/8-16 X 2 1/4         | 35          | 98-5975            | 4           | Washer-Spring Disc 3/8              |
| 5           | 322-9              | 2           | Screw-HH 5/16-18 X 1 3/4        | 36          | 323-6              | 4           | Screw-HH 3/8-16 X 1                 |
| 6           | 3296-39            | 1           | Nut-Nyloc 3/8-16                | 37          | 3220-3             | 4           | Nut-Jam 3/8-24                      |
| 7           | 1-806003           | 2           | Hairpin-Cotter                  | 38          | 322-10             | 4           | Screw-HH 5/16-18 X 2                |
| 8           | 103-1149           | 1           | Linkage, Upper                  | 39          | 1-603716           | 1           | Washer-Friction Disc                |
| 9           | 1-413279           | 1           | Turnbuckle, 3/8-16 Ss           | 40          | 1-323244           | 2           | Washer-Friction                     |
| 10          | 3217-7             | 1           | Nut-Hex 3/8-16                  | 41          | 109-4651           | 1           | Asm, Console (109-4649-03)W/ Decals |
| 11          | 116-4079           | 1           | Wld, Lever, Opc (LH) ■          | 42          | 116-8632           | 1           | Lever-Shift W/Grip                  |
| 12          | 1-803322           | 2           | Setscrew-5/16-24 X 5/16 ●       | 43          | 103-5994           | 1           | Grip, Steering Handle               |
| 13          | 1-303365           | 2           | Bushing-Nylon                   | 44          | 3296-29            | 4           | Nut-Nyloc 5/16-18                   |
| 14          | 103-0769-03        | 1           | Rod Weldment, Opc               | 45          | 1-323245           | 2           | Spring-Compression                  |
| 15          | 1-303363           | 1           | Spring-Extension                | 46          | 3256-23            | 1           | Washer-5/16 Sae                     |
| 16          | 116-4080           | 1           | Wld, Opc Lever (RH) ■           | 47          | 321-3              | 12          | Screw-HH 1/4-20 X 5/8               |
| 17          | 1-807513           | 2           | Bolt-Carriage #10-24 X 1/2      | 48          | 1-413225           | 1           | Rod, Speed Control                  |
| 19          | 116-2426           | 1           | Cable, Throttle                 | 49          | 3220-2             | 1           | Nut-Jam 5/16-24                     |
| 20          | 3296-2             | 2           | Nut-Nyloc #10-24                | 50          | 1-303105           | 1           | Yoke-Adjustable                     |
| 21          | 103-0770-03        | 1           | Handle Weldment (1-412449)      | 51          | 1-808280           | 1           | Pin-Clevis 5/16 X 1 49/64           |
| 22          | 103-0815           | 2           | Grip-Bar, Handle                | 58          | 103-1796           | 1           | Cable-Choke                         |
| 23          | 1-413152           | 4           | Bushing-Sleeve                  | 59          | 103-1797-01        | 1           | Bracket-Cable, Choke                |
| 24          | 116-4081-03        | 1           | Lever, Drive LH                 | 66          | 1-303287           | 1           | Tie-Cable 5 1/2 (Small)             |
| 25          | 103-0027           | 2           | Bushing-Lever, Drive            | 67          | 103-2513           | 1           | Asm, Drive Lever RH                 |
| 26          | 321-14             | 2           | Screw-HH 1/4-20 X 2 3/4         | 68          | 103-2463           | 2           | Balljoint                           |
| 27          | 32128-33           | 14          | Nut-Whizlock 1/4-20             | 69          | 103-0503           | 1           | Bracket, Shifter Slide              |
| 28          | 103-0464           | 2           | Pin-Spring 1/8 X 1/2            | 70          | 103-0489-03        | 1           | Bracket, Opc Axle                   |
| 29          | 3256-22            | 10          | Washer-1/4 Sae                  | 71          | 3219-3             | 2           | Nut-Hex 3/8-24                      |
| 30          | 1-303435           | 6           | Washer-Spring Disc 1/4          | 72          | 103-2514           | 1           | Asm, Drive Lever LH                 |
| 31          | 103-1371           | 1           | Thumb Latch Asm RH              | 73          | 3272-5             | 1           | Pin-Cotter 3/32 X 1/2               |
| 31          | 103-1372           | 1           | Thumb Latch Asm LH              |             |                    |             |                                     |

● Use Pro-Lock, Nut Type (P/N 1-840022, .5ml tube) on threads.

■ Use Pro-Lock retaining type, Part no. 1-840023 (.5cc tube) on inside of bore of OPC hub.



## Fuel Tank Assembly

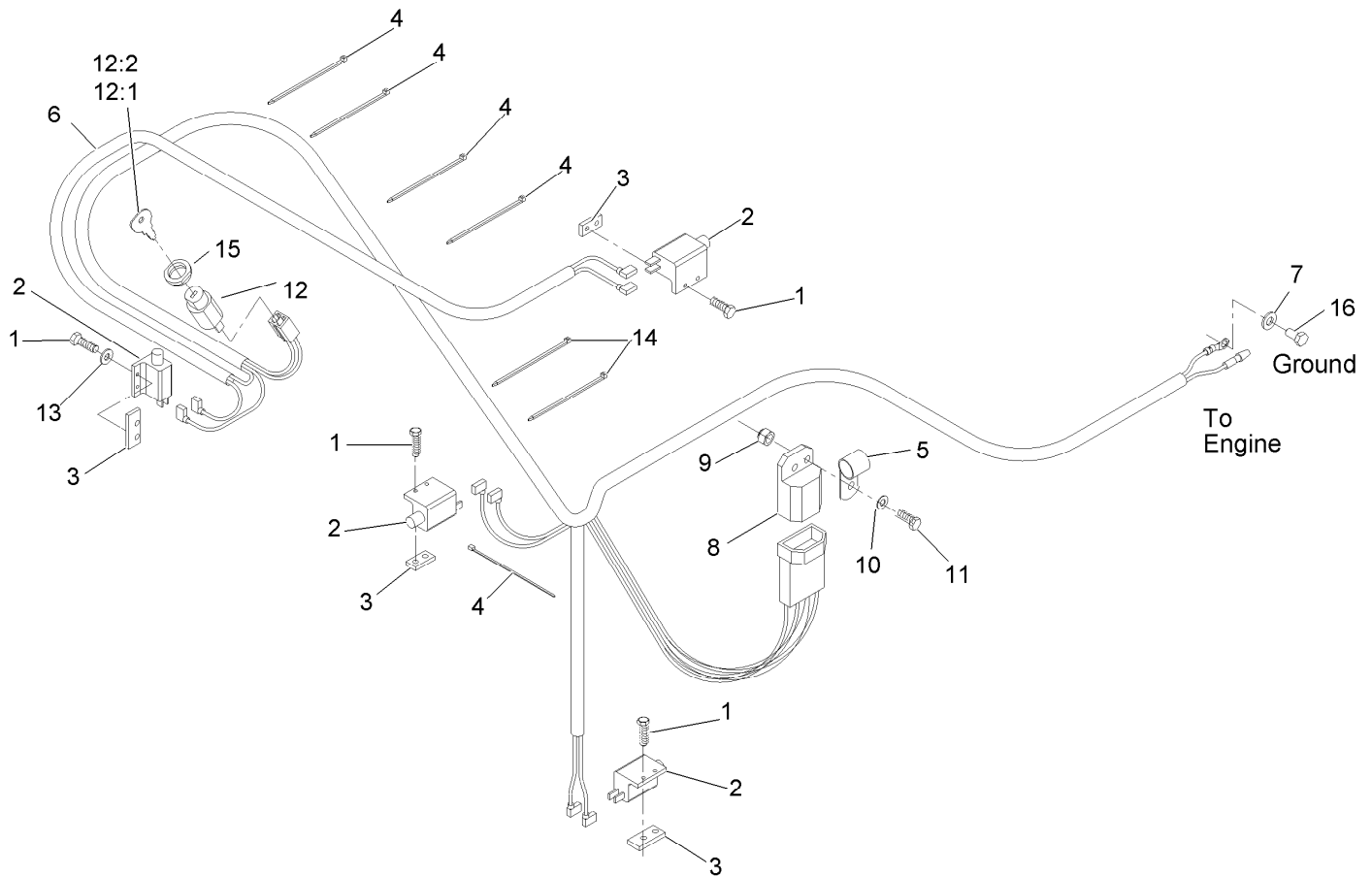
| Ref. | Part Number | Qty. | Description                        |
|------|-------------|------|------------------------------------|
| 1    | 2412-98     | 4    | Clamp-Hose                         |
| 2    | 1-603770    | 1    | Valve-Fuel                         |
| 4    | 103-2605    | 1    | Fitting-Fuel Bulkhead W/Strainer ▲ |
| 5    | 104-8300    | 2    | Nut-Nyloc 5/16-18 Fig              |
| 7    | 107-4543    | 2    | Clamp                              |
| 8    | 109-0650    | 1    | Hose-Fuel                          |
| 9    | 99-9415     | 1    | Hose-Fuel                          |
| 10   | 114-0285    | 1    | Valve-Rollover                     |
| 11   | 115-4465    | 1    | Cap-Fuel, Ratcheting               |
| 12   | 115-7872    | 1    | Hose-Fuel                          |

| Ref. | Part Number | Qty. | Description                             |
|------|-------------|------|---|
| 13   | 116-3656    | 1    | ASM, Fuel Tank                          |
| 14   | 119-6549    | 1    | Grommet-Valve, Roll-Over                |
| 16   | 120-2235    | 1    | Filter-Fuel                             |
| 17   | 322-10      | 2    | Screw-HH 5/16-18 X 2                    |
| 18   | 3256-3      | 2    | Washer-5/16 Std                         |
| 19   | 116-4346    | 1    | Hose-Emissions                          |
| 20   | 1-303335    | 3    | Tie-Cable 7 15/16 (Large)               |
| 21   |             | 1    | Pn 49019-0014 Filter W/6In Fuel Line ■● |
| 22   | 116-5464    | 1    | Tee And Check                           |

● Not serviced separately

▲ Use Pro-Lock, Nut Type (P/N 1-840022, .5ml tube) on threads.

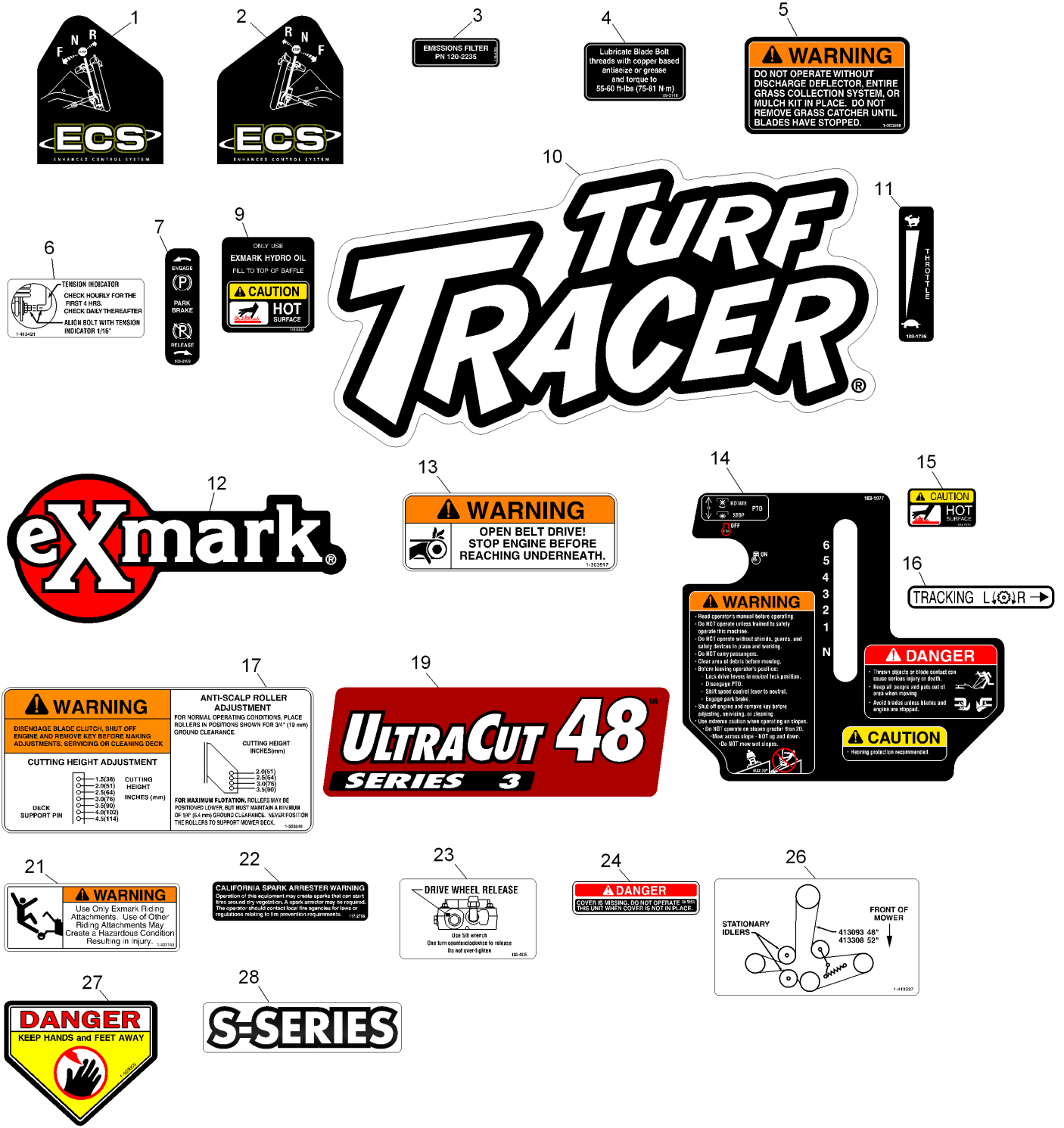
■ Obtain parts from [www.kawpowerpc.com](http://www.kawpowerpc.com)



## Electrical Assembly

| Ref. | Part Number | Qty. | Description             | Ref. | Part Number | Qty. | Description               |
|------|-------------|------|-------------------------|------|-------------|------|---------------------------|
| 1    | 3290-500    | 8    | Screw-PPH #10-24 X 5/8  | 10   | 3256-22     | 1    | Washer-1/4 Sae            |
| 2    | 1-513051    | 4    | Switch-N.O.             | 11   | 321-4       | 1    | Screw-HH 1/4-20 X 3/4     |
| 3    | 1-633181    | 4    | Plate-Tapped            | 12   | 1-403121    | 1    | Switch-Key                |
| 4    | 1-303287    | 5    | Tie-Cable 5 1/2 (Small) | 12:1 | 1-603511    | 1    | Key-Ignition              |
| 5    | 1-323229    | 1    | Clip-Loom 3/8           | 12:2 | 103-2106    | 1    | Key-Exmark Logo           |
| 6    | 116-2610    | 1    | Harness, Wiring         | 13   | 3256-14     | 1    | Washer-#10 Std            |
| 7    | 33094-00    | 1    | Washer                  | 14   | 1-303335    | 2    | Tie-Cable 7 15/16 (Large) |
| 8    | 1-323430    | 1    | Module-Interlock        | 15   | 103-0498    | 1    | Nut-Ignition              |
| 9    | 3296-42     | 1    | Nut-Nyloc 1/4-20        | 16   | 33114-016   | 1    | Screw-HH M8-1.25 X 16Mm   |

# Decals

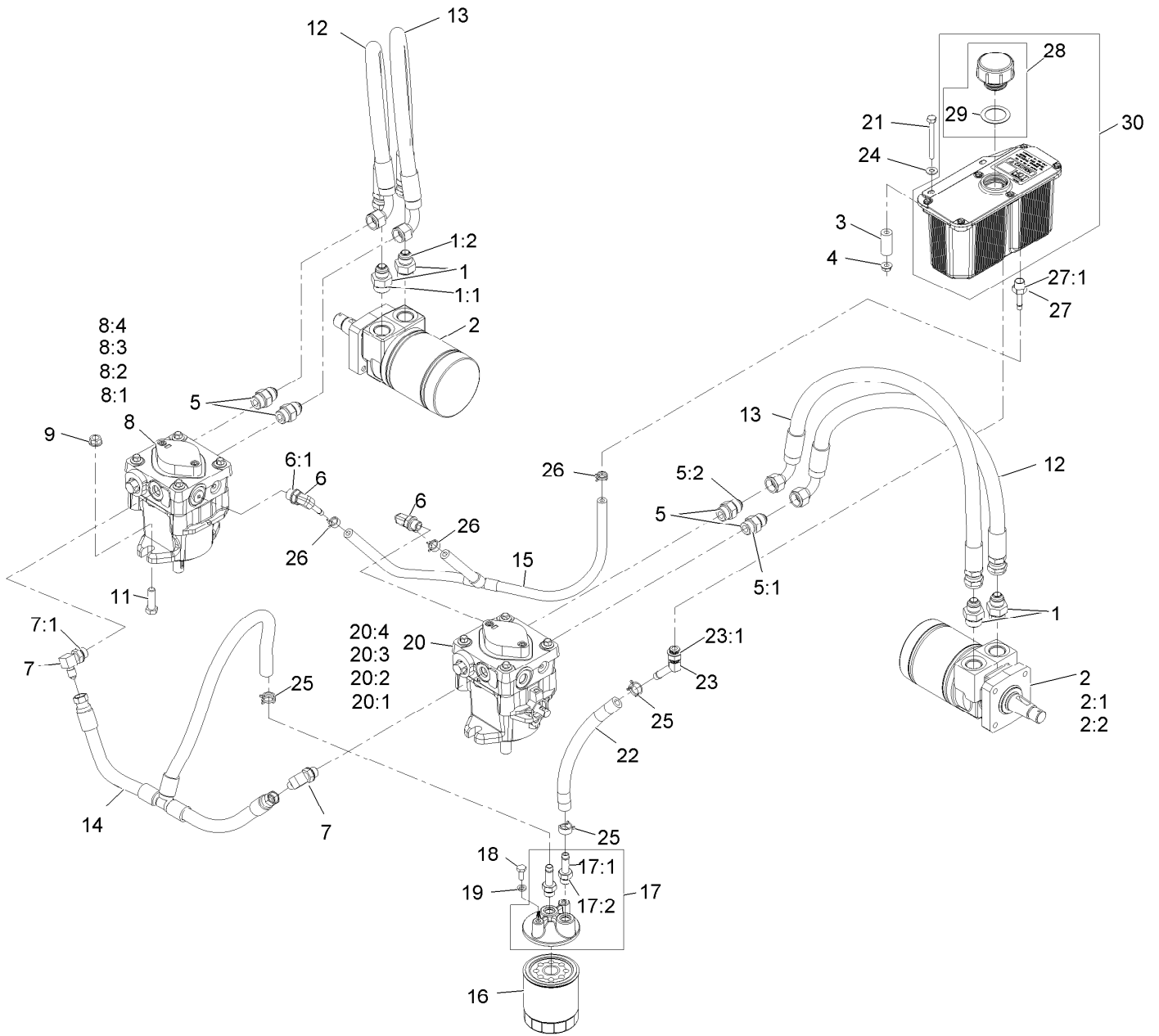


## Decals (continued)

| <i>Ref.</i> | <i>Part Number</i> | <i>Qty.</i> | <i>Description</i>        | <i>Ref.</i> | <i>Part Number</i> | <i>Qty.</i> | <i>Description</i>         |
|-------------|--------------------|-------------|---------------------------|-------------|--------------------|-------------|----------------------------|
| 1           | 103-2242           | 1           | Decal, Ecs Instruction LH | 15          | 103-2076           | 2           | Decal-Caution              |
| 2           | 103-2243           | 1           | Decal, Ecs Instruction RH | 16          | 1-413214           | 1           | Decal, Tracking            |
| 3           | 116-4769           | 1           | Decal-Filter, Emissions   | 17          | 1-553049           | 1           | Decal, Mower Deck          |
| 4           | 109-3148           | 1           | Decal, Bolt Torque        | 19          | 116-4697           | 1           | Decal-Ultracut 48 Series 3 |
| 5           | 1-303508           | 1           | Decal-Warning, Discharge  | 21          | 1-403143           | 1           | Decal, Sulky Warning       |
| 6           | 1-413421           | 1           | Decal, Indicator          | 22          | 117-2718           | 1           | Decal-Spark Arrester       |
| 7           | 103-2103           | 1           | Decal-Brake, Park         | 23          | 103-4935           | 1           | Decal, Drive Wheel Release |
| 9           | 116-0404           | 1           | Decal-Hydraulic Tank      | 24          | 98-5954            | 3           | Decal-Cover, Missing       |
| 10          | 103-3013           | 1           | Decal, Turf Tracer        | 26          | 1-413327           | 1           | Decal, Belt Routing (48")  |
| 11          | 103-1798           | 1           | Decal, Throttle           | 27          | 1-403005           | 2           | Decal-Danger               |
| 12          | 103-2882           | 1           | Decal, Exmark Logo        | 28          | 116-3884           | 2           | Decal-S-Series             |
| 13          | 1-303517           | 1           | Decal,Belt Drive          | 99          | 103-2461           | 1           | Decal Kit(Standard) ●      |
| 14          | 103-1977           | 1           | Decal, Ecs Console        |             |                    |             |                            |

● Not illustrated

# Hydraulic Assembly





## Hydraulic Assembly (continued)

| <i>Ref.</i> | <i>Part Number</i> | <i>Qty.</i> | <i>Description</i>      | <i>Ref.</i> | <i>Part Number</i> | <i>Qty.</i> | <i>Description</i>             |
|-------------|--------------------|-------------|-------------------------|-------------|--------------------|-------------|--------------------------------|
| 1           | 1-603991           | 4           | Adapter-Straight        | 15          | 116-0918           | 1           | Case Drain Hose ASM            |
| 1:1         | 1-603919           | 1           | O-Ring-Sae #10          | 16          | 109-4180           | 1           | Element, Oil Filter            |
| 1:2         | 1-603992           | 1           | O-Ring-37 Flare #8      | 16          | 1-523541           | 1           | Element, Oil Filter (Winter) ● |
| 2           | 1-603718           | 2           | HYD Motor ASM           | 17          | 103-2889           | 1           | Filter Head ASM                |
| 2:1         | 1-000138           | 1           | Bearing And Seal Kit    | 17:1        | 103-1912           | 2           | Adapter-Straight               |
| 2:2         | 1-000119           | 1           | Seal Kit                | 17:2        | 1-603921           | 1           | O-Ring-Sae #6                  |
| 3           | 103-2191           | 2           | Spacer                  | 18          | 321-3              | 2           | Screw-HH 1/4-20 X 5/8          |
| 4           | 32128-33           | 2           | Nut-Whizlock 1/4-20     | 19          | 1-805004           | 2           | Washer-Lock 1/4 Heavy          |
| 5           | 1-603990           | 4           | Adapter-Straight        | 20          | 116-0943           | 1           | RH HYD Pump ASM                |
| 5:1         | 1-603920           | 1           | O-Ring-Sae #8           | 20:1        | 103-2664           | 1           | Input Shaft Kit                |
| 5:2         | 1-603992           | 1           | O-Ring-37 Flare #8      | 20:2        | 94-6922            | 1           | Bearing-Thrust                 |
| 6           | 103-1799           | 2           | Elbow-90 DEG            | 20:3        | 103-2666           | 1           | Cylinder Block Kit             |
| 6:1         | 1-603921           | 1           | O-Ring-Sae #6           | 20:4        | 105-6184           | 1           | Seal Overhaul Kit              |
| 7           | 103-1802           | 2           | Fitting-HYD, 90 DEG     | 21          | 321-15             | 2           | Screw-HH                       |
| 7:1         | 1-603921           | 1           | O-Ring-Sae #6           | 22          | 103-2959           | 1           | Hose-Charge                    |
| 8           | 116-0942           | 1           | LH HYD Pump ASM         | 23          | 103-1807           | 1           | Fitting-Barbed, 45 DEG         |
| 8:1         | 103-2664           | 1           | Input Shaft Kit         | 23:1        | 1-603921           | 1           | O-Ring-Sae #6                  |
| 8:2         | 94-6922            | 1           | Bearing-Thrust          | 24          | 3256-22            | 2           | Washer-1/4 Sae                 |
| 8:3         | 103-2666           | 1           | Cylinder Block Kit      | 25          | 103-1988           | 3           | Clamp-Hose 11/16               |
| 8:4         | 105-6184           | 1           | Seal Overhaul Kit       | 26          | 103-1716           | 3           | Clamp-Hose 17/32               |
| 9           | 32128-43           | 4           | Nut-Whizlock 3/8-16     | 27          | 103-1801           | 1           | Adapter-Straight               |
| 11          | 323-7              | 4           | Screw-HH 3/8-16 X 1 1/4 | 27:1        | 1-603921           | 1           | O-Ring-Sae #6                  |
| 12          | 119-7827           | 2           | HYD Hose ASM            | 28          | 103-7615           | 1           | Asm, Cap W/Gasket              |
| 13          | 119-7826           | 2           | HYD Hose ASM            | 29          | 103-1949           | 1           | Gasket-Cap                     |
| 14          | 116-2123           | 1           | Charge Hose ASM         | 30          | 103-1947           | 1           | HYD Reservoir ASM              |

● Use only for operation below 32°F (0°C).

**Notes:**

# EXMARK® MAINTENANCE

## MAXIMIZE THE PERFORMANCE OF YOUR EXMARK.

### **4-CYCLE PREMIUM ENGINE OIL**

Part No. 116-3373

Both SAE 30 and SAE 10W-30 in one bottle.

Contains increased levels of zinc and phosphorus for better lubricity.

No Viscosity Index Improvers that tend to shear down in high heat.

Synthetic formulation.

Gas & Diesel compatible.

Anti-corrosion additives.

API 'SL' and JASO rated with wet clutch compatibility for other machines.

### **PREMIUM HYDRO OIL**

Part No. 109-9828

Commercial quality for tough, high-heat conditions.

Designed specifically for zero-turn mower hydraulic systems.

Superior shear resistance under heavy loads.



Available from your local Exmark dealer. Find your closest dealer at [exmark.com](http://exmark.com)

## EXMARK ACCESSORIES AND OPTIONS\*

### MID-MOUNT RIDING ACCESSORIES AND OPTIONS

|                                    |                                 |
|------------------------------------|---------------------------------|
| CUSTOM RIDE SEAT SUSPENSION SYSTEM | OPERATOR CONTROLLED DISCHARGE   |
| FULL SUSPENSION SEAT               | SUN SHADE                       |
| DECK LIFT ASSIST KIT               | TRASH CONTAINER                 |
| HITCH KIT                          | TURF STRIPER                    |
| LIGHT KIT                          | ULTRA VAC COLLECTION SYSTEM     |
| 12V POWER PORT                     | ULTRA VAC QUICK DISPOSAL SYSTEM |
| MICRO-MULCH SYSTEM                 |                                 |

### OUT-FRONT RIDING ACCESSORIES AND OPTIONS

|                                    |                                 |
|------------------------------------|---------------------------------|
| CUSTOM RIDE SEAT SUSPENSION SYSTEM | SNOW BLADE                      |
| DUAL-TAIL WHEEL                    | SNOWBLOWER                      |
| FLOOR PAN EXTENDER                 | SUN SHADE                       |
| HITCH KIT                          | TRASH CONTAINER                 |
| LIGHT KIT                          | ULTRA VAC COLLECTION SYSTEM     |
| MICRO-MULCH SYSTEM                 | ULTRA VAC QUICK DISPOSAL SYSTEM |
| ROLL OVER PROTECTION SYSTEM (ROPS) | WEATHER CAB                     |

### WALK-BEHIND ACCESSORIES AND OPTIONS

|                    |              |
|--------------------|--------------|
| GRASS CATCHER      | TURF STRIPER |
| MICRO-MULCH SYSTEM | STANDON      |

\*Some accessories and options not available for some models.

Place Model No. and Serial No.  
Label Here (Included in the Literature  
Pack) or Fill in Below

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

Date Purchased \_\_\_\_\_

Engine Model No. and Spec. No. \_\_\_\_\_

Engine Serial No. (E/No) \_\_\_\_\_

© 2013 Exmark Mfg. Co., Inc.  
Industrial Park Box 808  
Beatrice, NE 68310  
All Rights Reserved

Part No. 4501-430 Rev. B  
(402) 223-6300  
Fax (402) 223-5489  
Printed in the USA.

