



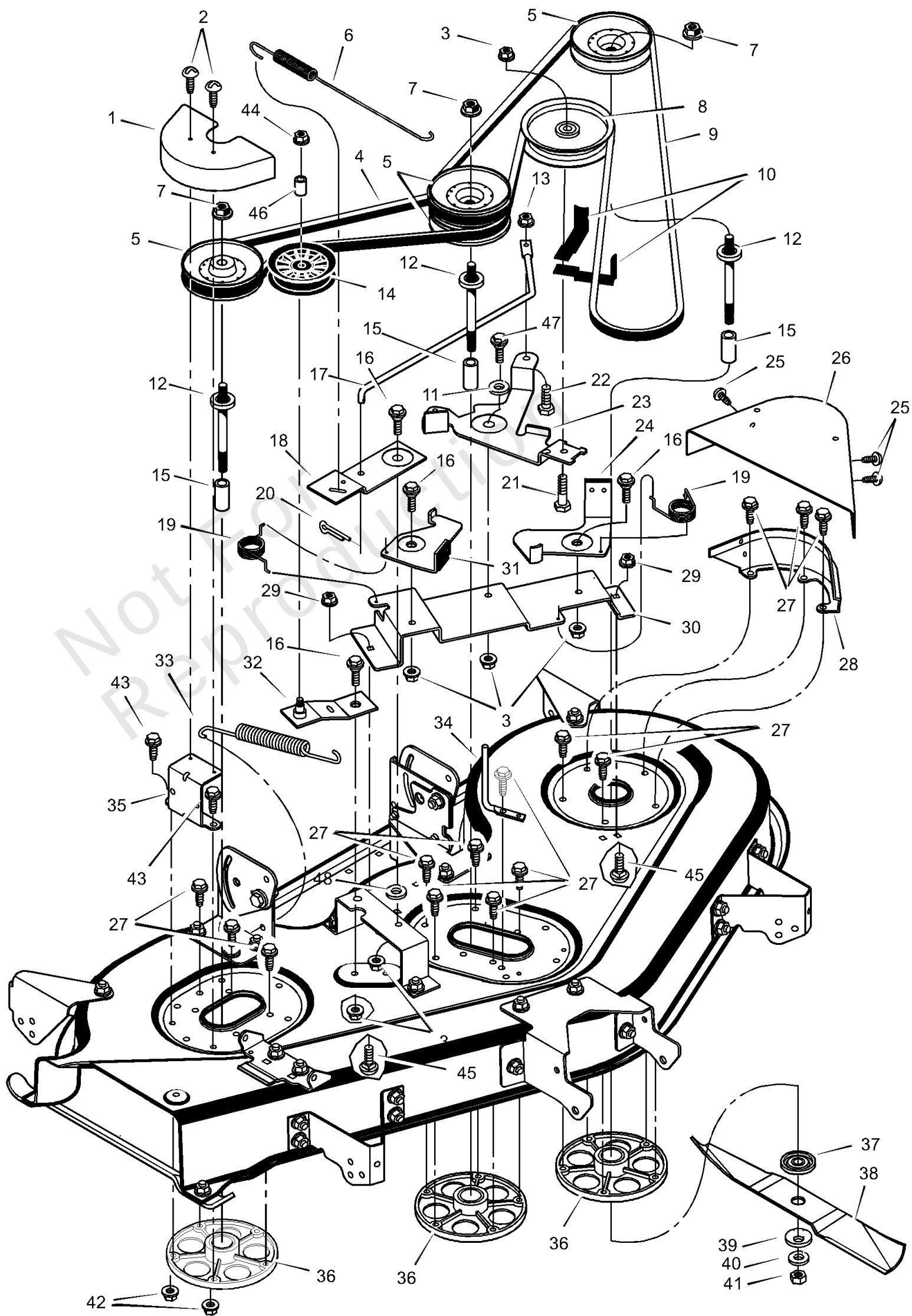
# Parts Manual

Mfg. No: 52101x92A  
Garden Tractor (2000)



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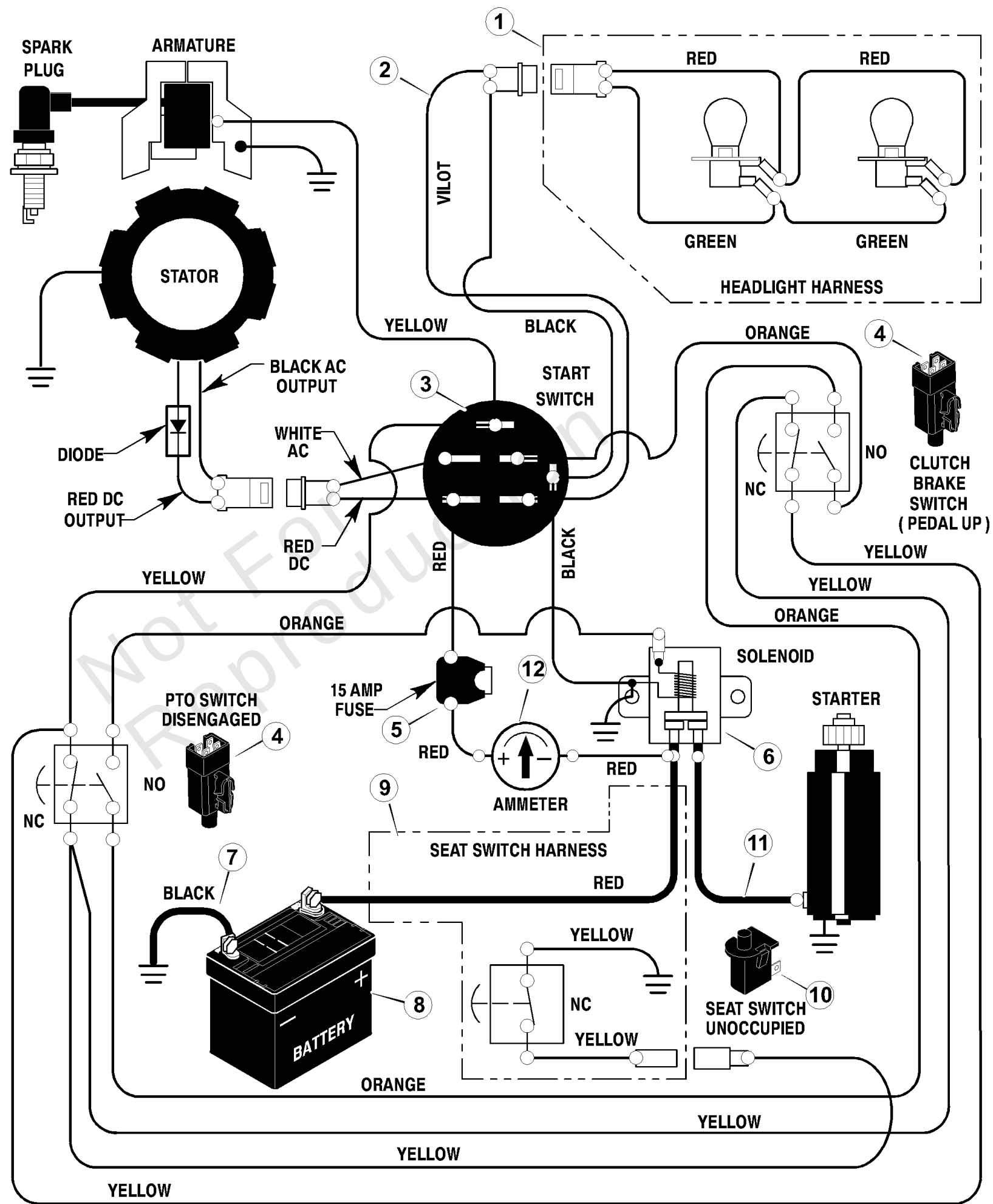
## Blade Drive

| REF NO | PART NO      | QTY | DESCRIPTION                     |
|--------|--------------|-----|---------------------------------|
| 1      | 094607E700   |     | Cover, Right Pulley             |
| 2      | 26X250MA     |     | Screw                           |
| 3      | 015X84MA     |     | Nut                             |
| 4      | 037X92MA     |     | Belt, Secondary                 |
| 5      | 690444MA     |     | Pulley                          |
| 6      | 165X138MA    |     | Spring, Extension               |
| 7      | 15X121       |     | Nut                             |
| 8      | 095068MA     |     | Pulley, Idler                   |
| 9      | 037X93MA     |     | Belt, Primary                   |
| 10     | 094809MA     |     | Spring, Belt Guide              |
| 11     | 17X149MA     |     | Washer                          |
| 12     | 094129       |     | Mandrel                         |
| 13     | 015X89MA     |     | NUT .25-20 FLANGELOCK           |
| 14     | 690549MA     |     | Pulley, Backside Idler          |
| 15     | 094130MA     |     | Spacer                          |
| 16     | 009X39MA     |     | Bolt, Shoulder                  |
| 17     | 690119 Z     |     | Link                            |
| 18     | 094808E700   |     | Bellcrank                       |
| 19     | 166X41MA     |     | Spring, Torsion                 |
| 20     | 030X20MA     |     | Pin, Cotter                     |
| 21     | 01X111MA     |     | Bolt                            |
| 22     | 009X54MA     |     | Bolt, Shoulder                  |
| 23     | 690068E700   |     | Bracket, Idler                  |
| 24     | 095074       |     | Assembly, Brake Arm & Pad       |
| 25     | 26X277MA     |     | Screw                           |
| 26     | 094645E700   |     | Cover, Left Pulley              |
| 27     | 0025X7MA     |     | Bolt                            |
| 28     | 690221E700   |     | Bracket, Pulley Cover           |
| 29     | 015X79MA     |     | Nut, Flange                     |
| 30     | 690414E700   |     | Bracket, Brake                  |
| 31     | 094698       |     | Assembly, Brake Arm & Pad       |
| 32     | 094701       |     | Assembly, Idler Arm             |
| 33     | 165X130MA    |     | Spring, Extension               |
| 34     | 092424       |     | Guide, Belt                     |
| 35     | 092140E700   |     | Bracket, Cover                  |
| 36     | 092574       |     | Housing, Jackshaft              |
| 37     | 092466MA     |     | Adapter, Blade                  |
| 38     | 094692E701MA |     | Blade                           |
| 39     | 17X166MA     |     | Washer, Belleville              |
| 40     | 17X165MA     |     | Washer                          |
| 41     | 15X100MA     |     | Nut                             |
| 42     | 015X88MA     |     | Nut                             |
| 43     | 001X84MA     |     | CAPSCREW, Hex Head, 5/16-18 x 1 |
| 44     | 015X98MA     |     | Locknut                         |
| 45     | 002X53MA     |     | Bolt, Carriage                  |
| 46     | 690369MA     |     | Spacer                          |
| 47     | 009X42MA     |     | Bolt, Shoulder                  |
| 48     | 17X174MA     |     | Washer                          |

Electrical System

Note: Unless noted otherwise, use the standard torque specifications

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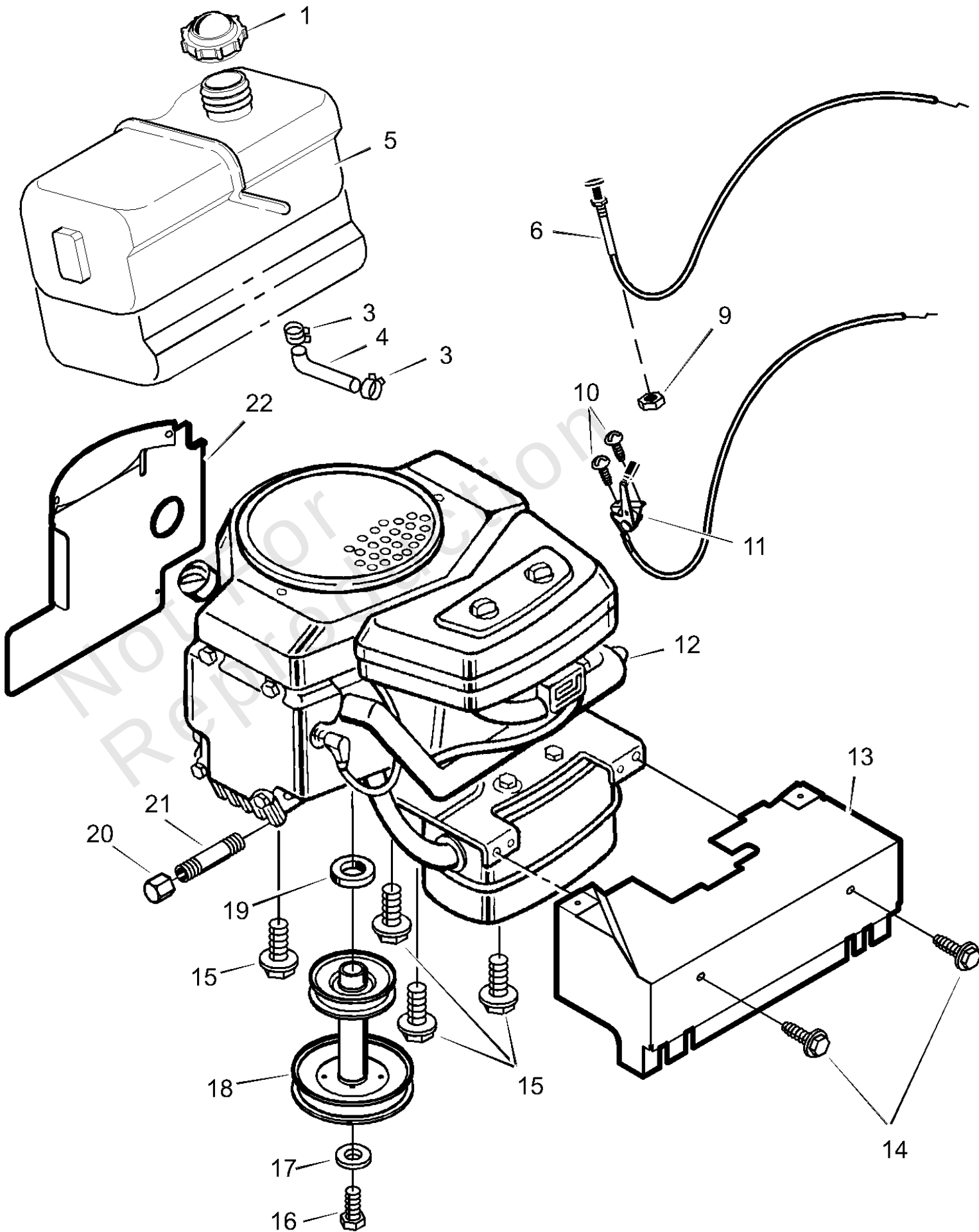
## ***Electrical System***

| REF NO | PART NO    | QTY | DESCRIPTION               |
|--------|------------|-----|---------------------------|
| 1      | 250X92MA   |     | Harness, Light Wire       |
| --     | 092372     |     | Socket, Light             |
| --     | 090084MA   |     | Bulb, Light               |
| 2      | 250X86MA   |     | Harness, Chassis Wire     |
| 3      | 092377MA   |     | Switch, Ignition          |
| --     | 020729     |     | Key, Ignition             |
| --     | 091489MA   |     | Nut, Hex                  |
| --     | 091488     |     | Cap, Ignition             |
| 4      | 094136MA   |     | Switch, Limit             |
| 5      | 054212     |     | Fuse                      |
| --     | 407078MA   |     | Holder, Fuse              |
| 6      | 094613     |     | Solenoid                  |
| --     | 26X229MA   |     | Screw, Mounting           |
| --     | 15X116MA   |     | Locknut                   |
| 7      | 024X32MA   |     | Cable, Battery Ground     |
| --     | 26X213MA   |     | Screw, Ground Cable       |
| 8      | 021075SEMA |     | Battery                   |
| --     | 002X82MA   |     | Bolt, Carriage            |
| --     | 014X79MA   |     | Wingnut                   |
| 9      | 250X67MA   |     | Harness, Seat Switch Wire |
| 10     | 094159MA   |     | Switch, Seat Sensor       |
| 11     | 024X31MA   |     | Cable                     |
| 12     | 093156MA   |     | Ammeter                   |
| --     | 250X90     |     | Harness, AC/DC Jumper     |

# Engine Mount

Note: Unless noted otherwise, use the standard torque specifications

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## Engine Mount

| REF NO | PART NO    | QTY | DESCRIPTION           |
|--------|------------|-----|-----------------------|
| 1      | 091349     |     | Cap, Gas              |
| 3      | 095197MA   |     | Clamp                 |
| 4      | 023717     |     | Line, Fuel            |
| 5      | 093148     |     | Tank, Fuel            |
| 6      | 690401     |     | Cable, Choke          |
| 9      | 015X68MA   |     | Nut                   |
| 10     | 26X201MA   |     | Screw                 |
| 11     | 093165MA   |     | Control, Throttle     |
| 12     | -----      |     | Engine *              |
| --     | 095198MA   |     | Muffler               |
| --     | 095208MA   |     | Gasket                |
| --     | 095200     |     | Liner, Port (Muffler) |
| --     | 06X102MA   |     | Bolt (Port Liner)     |
| 13     | 093191E701 |     | Shield Assembly, Heat |
| 14     | 26X263MA   |     | SCREW.25-20 S-T       |
| 15     | 0025X7MA   |     | Screw                 |
| 16     | 01X140MA   |     | Bolt                  |
| 17     | 17X170MA   |     | WASHER.46.97.25 FLAT  |
| 18     | 690225 Z   |     | Pulley, Stack         |
| 19     | 093077MA   |     | Spacer                |
| 20     | 021651     |     | Cap, Oil Drain        |
| 21     | 056261     |     | Pipe, Oil Drain       |
| 22     | 093078E700 |     | Baffle, Rear Heat     |

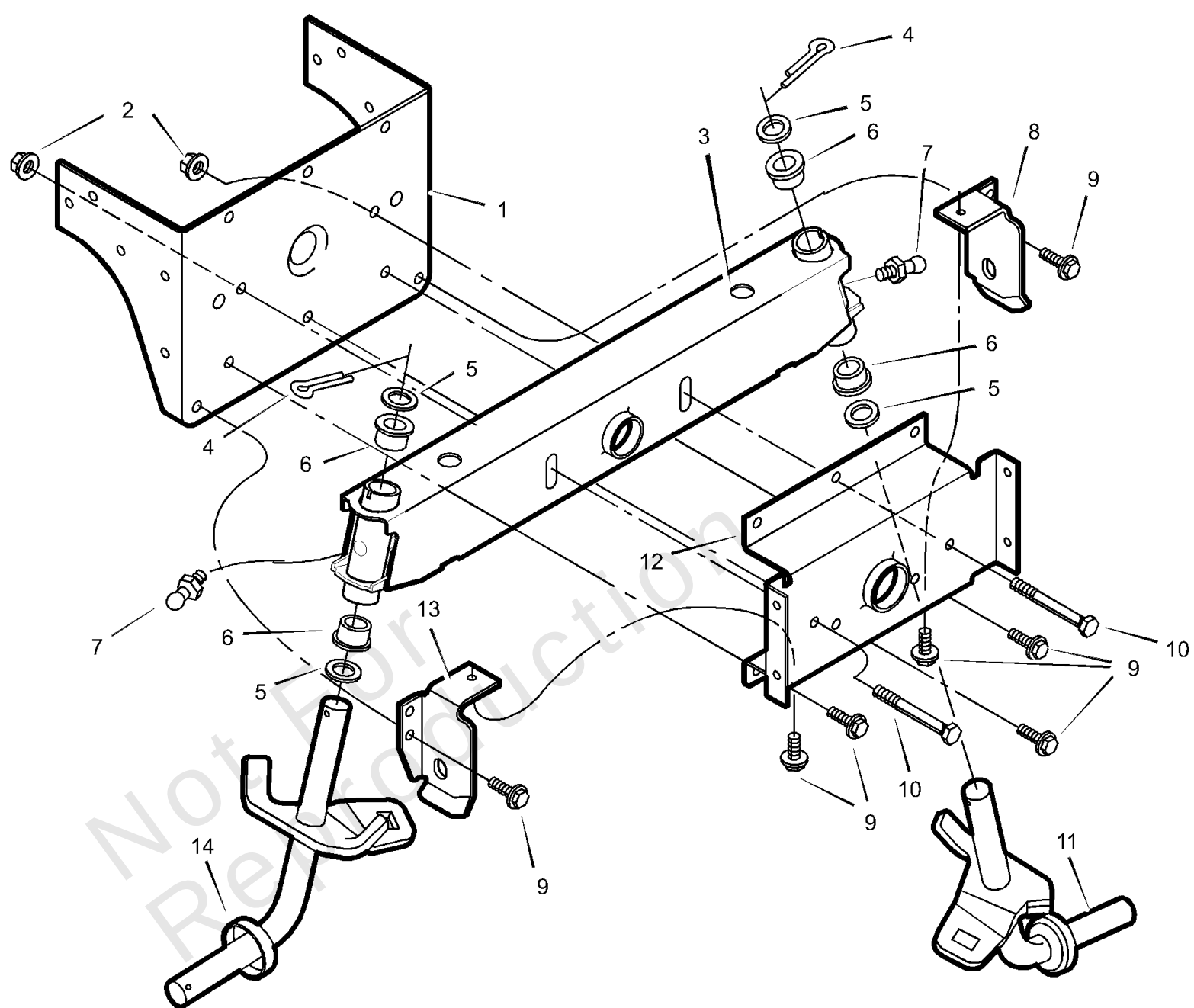
### Footnotes:

Note\* Parts are available from an engine Authorized Service Center. See "Engines, Gasoline" or "Gasoline Engines" in the yellow pages of the telephone directory.

Front Axle

Note: Unless noted otherwise, use the standard torque specifications

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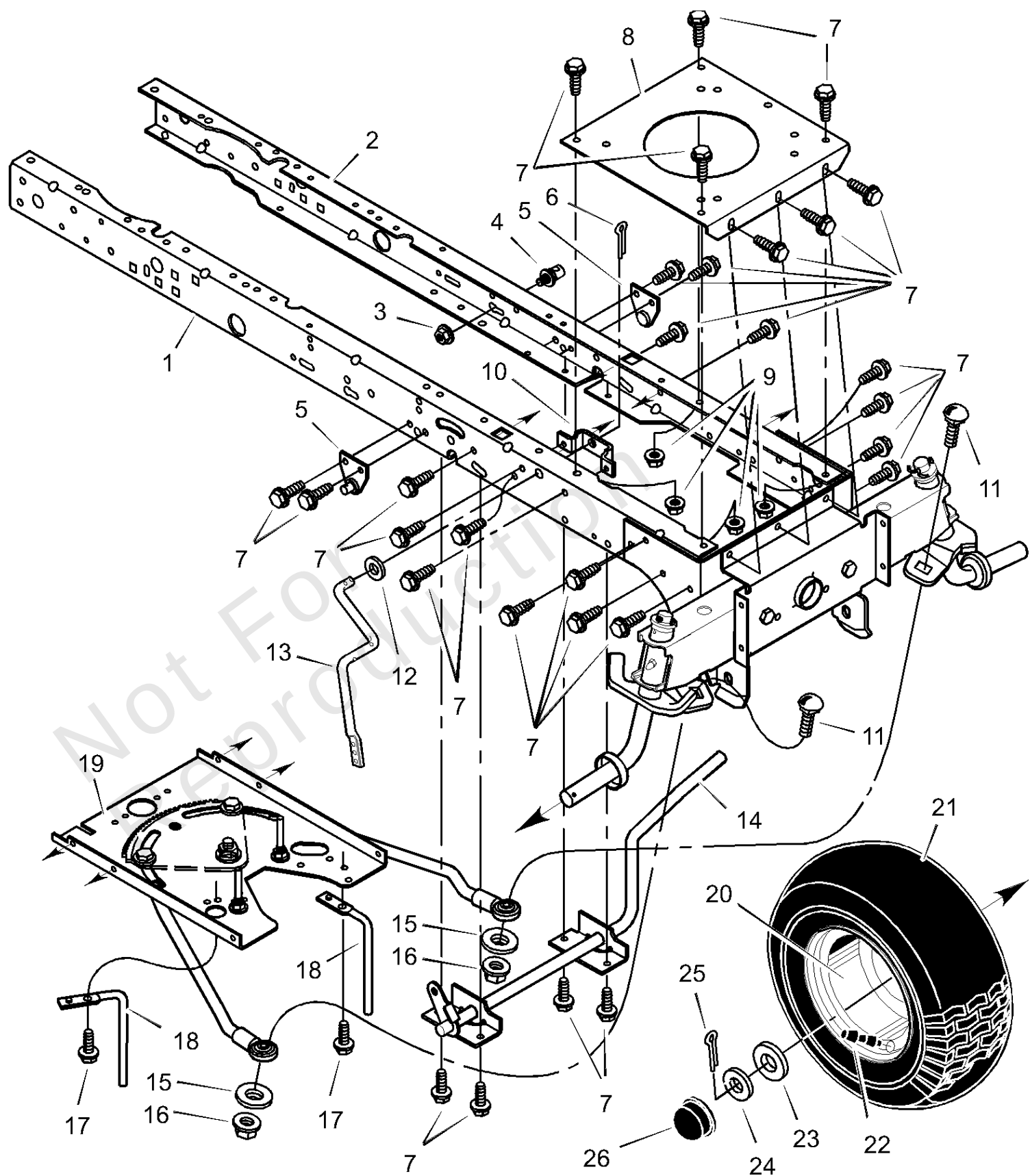
## Front Axle

| REF NO | PART NO    | QTY | DESCRIPTION             |
|--------|------------|-----|-------------------------|
| 1      | 690067E700 |     | Bracket, Rear Hanger    |
| 2      | 15X118MA   |     | Nut, Flange             |
| 3      | 690210MA   |     | Axle Assembly           |
| 4      | 030X49MA   |     | Pin, Hair               |
| 5      | 017X75MA   |     | Washer                  |
| 6      | 093058MA   |     | Bearing, Spindle        |
| 7      | 092530MA   |     | Fitting, Lub            |
| 8      | 690198E700 |     | Hanger, Left Deck       |
| 9      | 26X249MA   |     | Screw                   |
| 10     | 01X146MA   |     | Bolt                    |
| 11     | 690179E700 |     | Spindle Assembly, Left  |
| 12     | 094007E700 |     | Hanger, Axle            |
| 13     | 690199E700 |     | Hanger, Right Deck      |
| 14     | 690178E700 |     | Spindle Assembly, Right |

# Front Frame Assembly

Note: Unless noted otherwise, use the standard torque specifications

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## Front Frame Assembly

| REF NO | PART NO      | QTY | DESCRIPTION                  |
|--------|--------------|-----|------------------------------|
| 1      | 690206E700   |     | Frame, Right                 |
| 2      | 690207E700   |     | Frame, Left                  |
| 3      | 015X84MA     |     | Nut, Flange                  |
| 4      | 690182MA     |     | Stud, Swivel                 |
| 5      | 690406E700   |     | Bracket Assembly, Suspension |
| 6      | 030X20MA     |     | Pin, Cotter                  |
| 7      | 26X249MA     |     | Screw                        |
| 8      | 094006E700   |     | Plate, Engine                |
| 9      | 015X88MA     |     | Nut                          |
| 10     | 094005E700   |     | Bracket, PTO Crank           |
| 11     | 002X87       |     | Bolt, Carriage               |
| 12     | 017X57MA     |     | Washer                       |
| 13     | 690394E700   |     | Crank, PTO                   |
| 14     | 094038E701MA |     | Lever, Brake/Clutch          |
| 15     | 17X152       |     | Washer                       |
| 16     | 015X41MA     |     | Nut                          |
| 17     | 025X15MA     |     | Screw                        |
| 18     | 690192E700   |     | Guide, Belt                  |
| 19     | -----        |     | Assembly, Steering *         |
| 20     | 092644601    |     | Wheel & Tire Assembly        |
| 21     | 024393MA     |     | Tire *                       |
| --     | 407049MA     |     | Tube                         |
| --     | 093064MA     |     | Bearing, Wheel               |
| 22     | 024373MA     |     | VALVE STM&CP,TR41 SE         |
| 23     | 17X194MA     |     | Washer                       |
| 24     | 17X114MA     |     | Washer                       |
| 25     | 030X49MA     |     | Pin, Cotter                  |
| 26     | 094618MA     |     | HUB CAP                      |

### Footnotes:

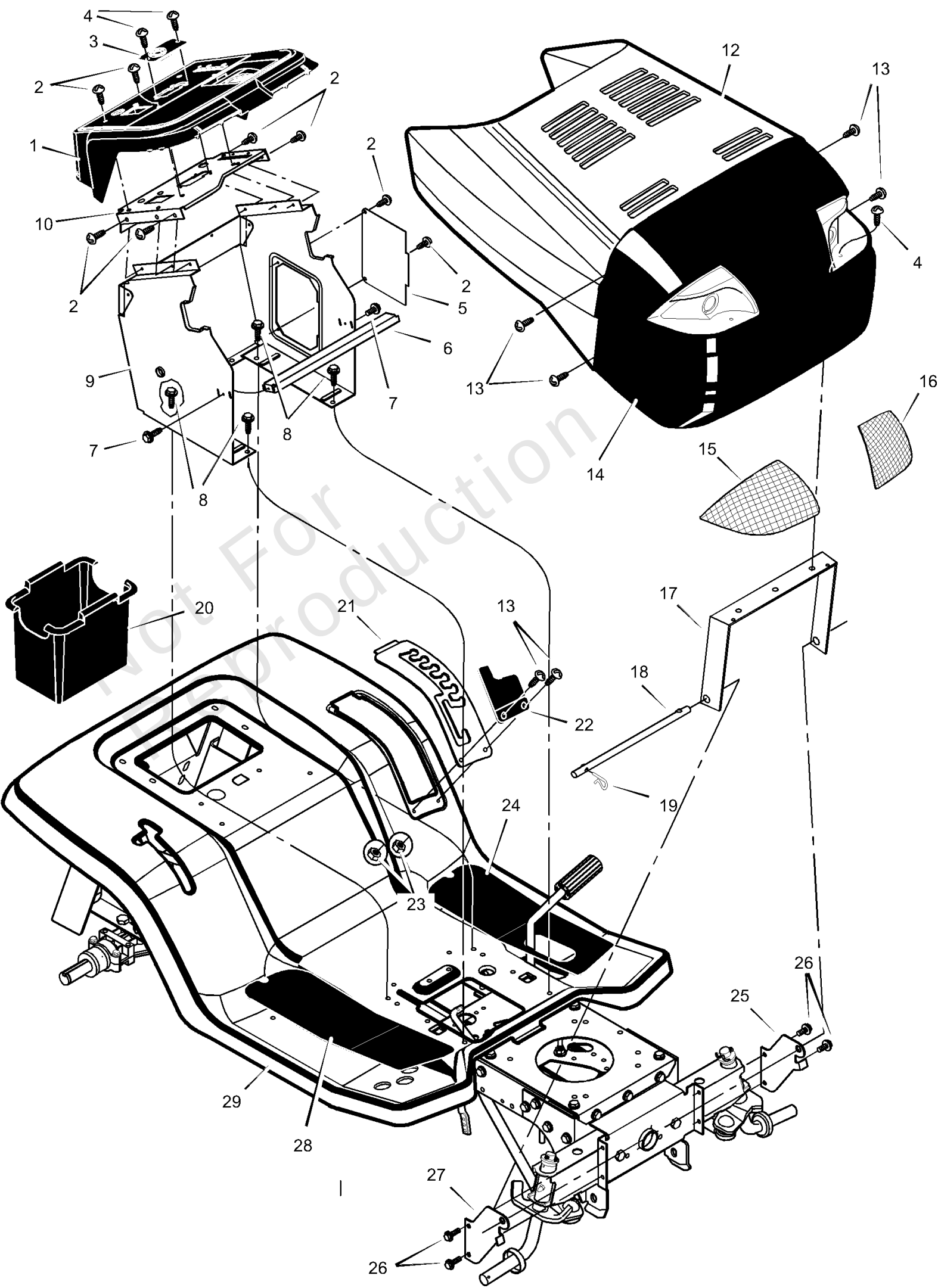
Note\* When you order a tire, make sure to give the brand name of the tire so that the tread pattern on the tire will match.

Note\* When you order a tire, make sure to give the brand name of the tire so that the tread pattern on the tire will match. See the Sector Gear Repair Parts page.

# Hood And Dash

Note: Unless noted otherwise, use the standard torque specifications

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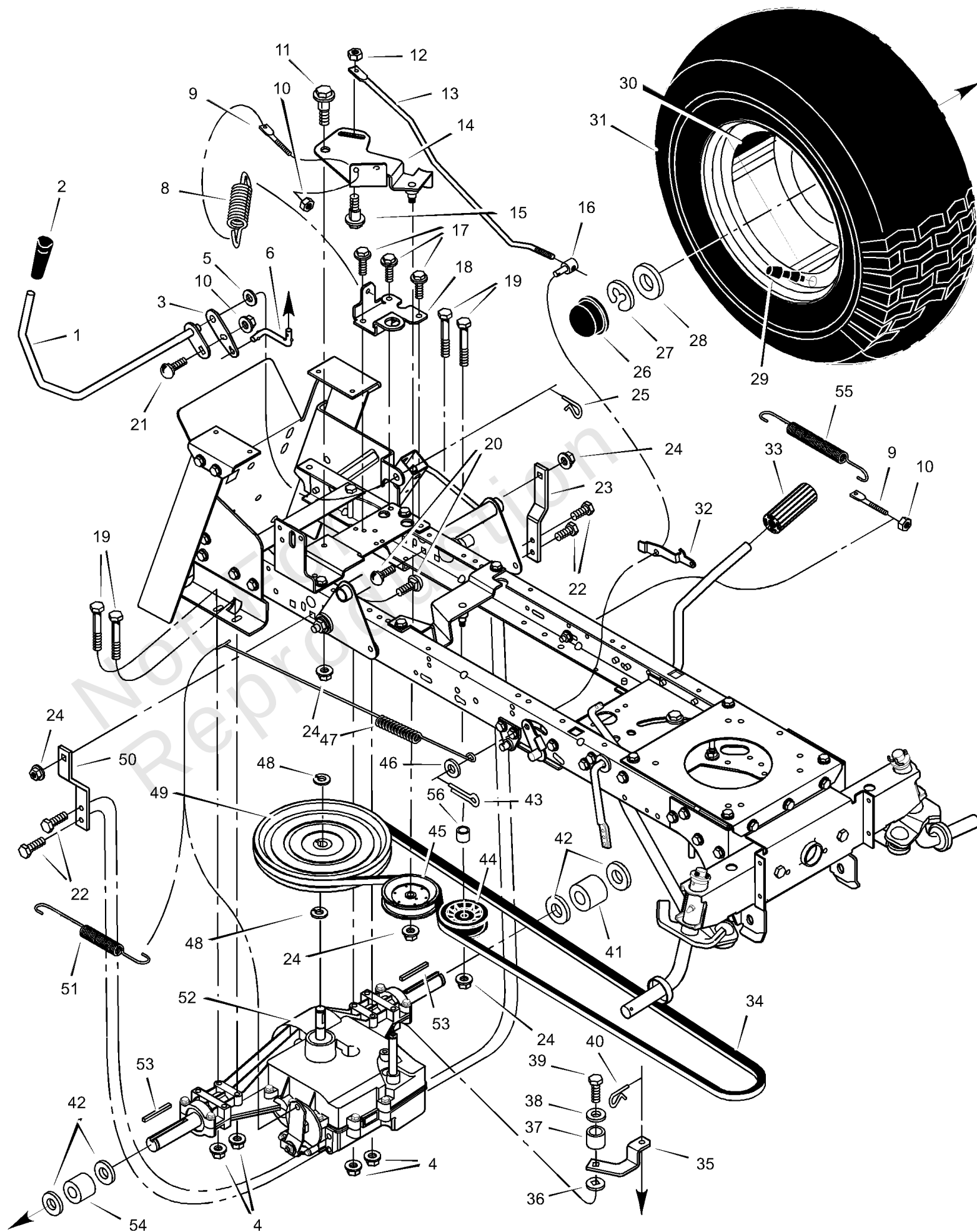
## Hood And Dash

| REF NO | PART NO      | QTY | DESCRIPTION                |
|--------|--------------|-----|----------------------------|
| 1      | 094223       |     | Dash                       |
| 2      | 26X270       |     | Screw                      |
| 3      | 094219MA     |     | Bearing, Upper Steering    |
| 4      | 26X239MA     |     | Screw                      |
| 5      | 093007E700   |     | Panel, Side Access         |
| 6      | 095081       |     | Channel, Support           |
| 7      | 26X263MA     |     | SCREW.25-20 S-T            |
| 8      | 26X249MA     |     | Screw                      |
| 9      | 095082       |     | Support, Dash              |
| 10     | 094221E701MA |     | Plate, Dash                |
| 12     | 093215E549   |     | Hood                       |
| 13     | 009X47MA     |     | Bolt, Shoulder             |
| 14     | 092542       |     | Grille<br>-(Includes Lens) |
| 15     | 092539MA     |     | Lens, Right                |
| 16     | 092540MA     |     | Lens, Left                 |
| 17     | 092541MA     |     | Brace, Grille              |
| 18     | 093137 Z     |     | Rod, Pivot                 |
| 19     | 0031X4MA     |     | Pin, Hair                  |
| 20     | 094069       |     | Container, Battery         |
| 21     | 094194E700   |     | Plate, Lift Detent         |
| 22     | 094680MA     |     | Cover                      |
| 23     | 015X81MA     |     | NUT#10-24 MCLEANLOCK       |
| 24     | 094383MA     |     | Mat, Left                  |
| 25     | 690544E700   |     | Support, Left Grille       |
| 26     | 26X277MA     |     | Screw                      |
| 27     | 690543E700   |     | Support, Right Grille      |
| 28     | 094382MA     |     | Mat, Right                 |
| 29     | 095326E549   |     | Deck, Seat                 |
| 30     | 44X7653      |     | Decal, Left Hood           |
| --     | 44X7652      |     | Decal, Right Hood          |
| --     | 44X7325MA    |     | Decal, Warning             |

## ***Motion Drive***

Note: Unless noted otherwise, use the standard torque specifications

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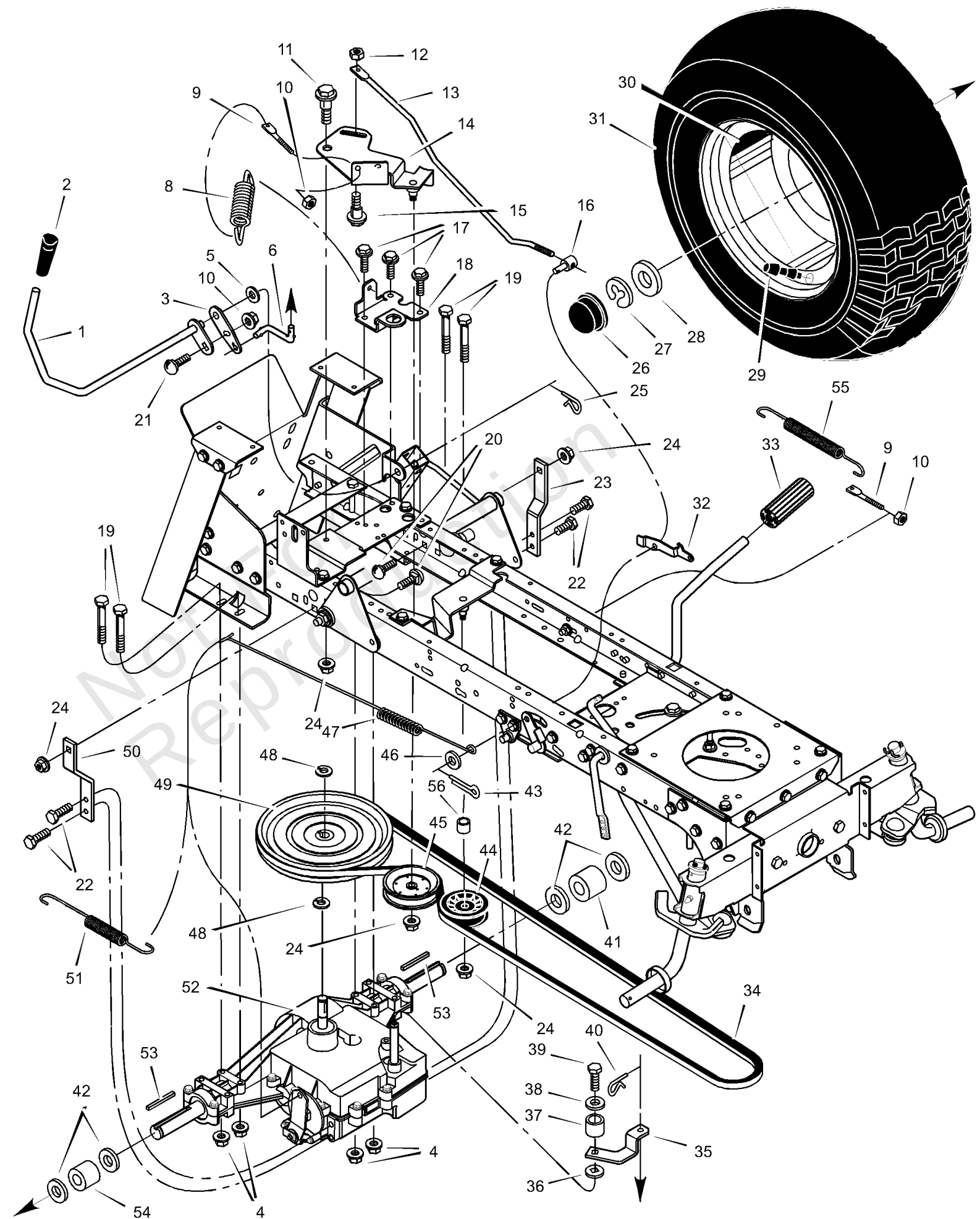
## Motion Drive

| REF NO | PART NO    | QTY | DESCRIPTION            |
|--------|------------|-----|------------------------|
| 1      | 690366 Z   |     | Lever, Shift           |
| 2      | 092697MA   |     | Grip                   |
| 3      | 690131 Z   |     | Plate, Adjusting       |
| 4      | 015X88MA   |     | Nut                    |
| 5      | 17X103MA   |     | Washer                 |
| 6      | 690130 Z   |     | Link, Shift            |
| 8      | 165X116MA  |     | Spring, Extension      |
| 9      | 094042ZMA  |     | Stud, Spring           |
| 10     | 015X79MA   |     | Nut                    |
| 11     | 009X39MA   |     | Bolt, Shoulder         |
| 12     | 015X89MA   |     | NUT .25-20 FLANGELOCK  |
| 13     | 094041 Z   |     | Rod, Clutch            |
| 14     | 690364 Z   |     | Arm Assembly, Idler    |
| 15     | 009X54MA   |     | Bolt, Shoulder         |
| 16     | 094815ZMA  |     | NUT-ADJUSTING          |
| 17     | 26X249MA   |     | Screw                  |
| 18     | 690070E700 |     | Bracket, Spring Mount  |
| 19     | 01X155MA   |     | Bolt                   |
| 20     | 002X78     |     | Bolt, Carriage         |
| 21     | 002X53MA   |     | Bolt, Carriage         |
| 22     | 26X216MA   |     | Bolt                   |
| 23     | 690081E700 |     | Bracket, Left Torque   |
| 24     | 015X84MA   |     | Nut                    |
| 25     | 0031X4MA   |     | Pin, Hair              |
| 26     | 094618MA   |     | HUB CAP                |
| 27     | 011X23MA   |     | E-Ring                 |
| 28     | 17X193MA   |     | Washer                 |
| 29     | 024373MA   |     | VALVE STM&CP,TR41 SE   |
| 30     | 093263-601 |     | Wheel and Tire         |
| 31     | 091923MA   |     | Tire *                 |
| --     | 407049MA   |     | Tube                   |
| 32     | 094045 Z   |     | Latch, Parking Brake   |
| 33     | 021544MA   |     | Pedal                  |
| 34     | 037X68MA   |     | Belt, Drive            |
| 35     | 690129 Z   |     | Yoke, Shift            |
| 36     | 17X148MA   |     | Washer, Square         |
| 37     | 091889     |     | Pilot, Support         |
| 38     | 017X38MA   |     | Washer                 |
| 39     | 06X105MA   |     | Capscrew               |
| 40     | 0031X6MA   |     | Pin, Hair              |
| 41     | 690213 Z   |     | Spacer, Left           |
| 42     | 17X118 Z   |     | WASHER, 1-1.3 16G FLT  |
| 43     | 030X20MA   |     | Pin, Cotter            |
| 44     | 690410MA   |     | Pulley, V Idler        |
| 45     | 023339MA   |     | Pulley, Backside Idler |
| 46     | 17X169MA   |     | Washer                 |
| 47     | 165X115MA  |     | Spring, Brake          |
| 48     | 0011X7MA   |     | Ring, Snap             |

### Footnotes:

Note\* For information on Replacement Parts see the Central Parts Distributor in your area.

Note\* When you order a tire, make sure to give the brand name of the tire so that the tread pattern on the tire will match.



## ***Motion Drive***

| REF NO | PART NO    | QTY | DESCRIPTION           |
|--------|------------|-----|-----------------------|
| 49     | 690181MA   |     | Pulley, Drive         |
| 50     | 690080E700 |     | Bracket, Right Torque |
| 51     | 165X92MA   |     | Spring, Extension     |
| 52     | -----      |     | Transmission *        |
| 53     | 024039MA   |     | Key, Square           |
| 54     | 690214 Z   |     | Spacer, Right         |
| 55     | 165X133MA  |     | Spring, Extension     |
| 56     | 690369MA   |     | Spacer                |

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### **Footnotes:**

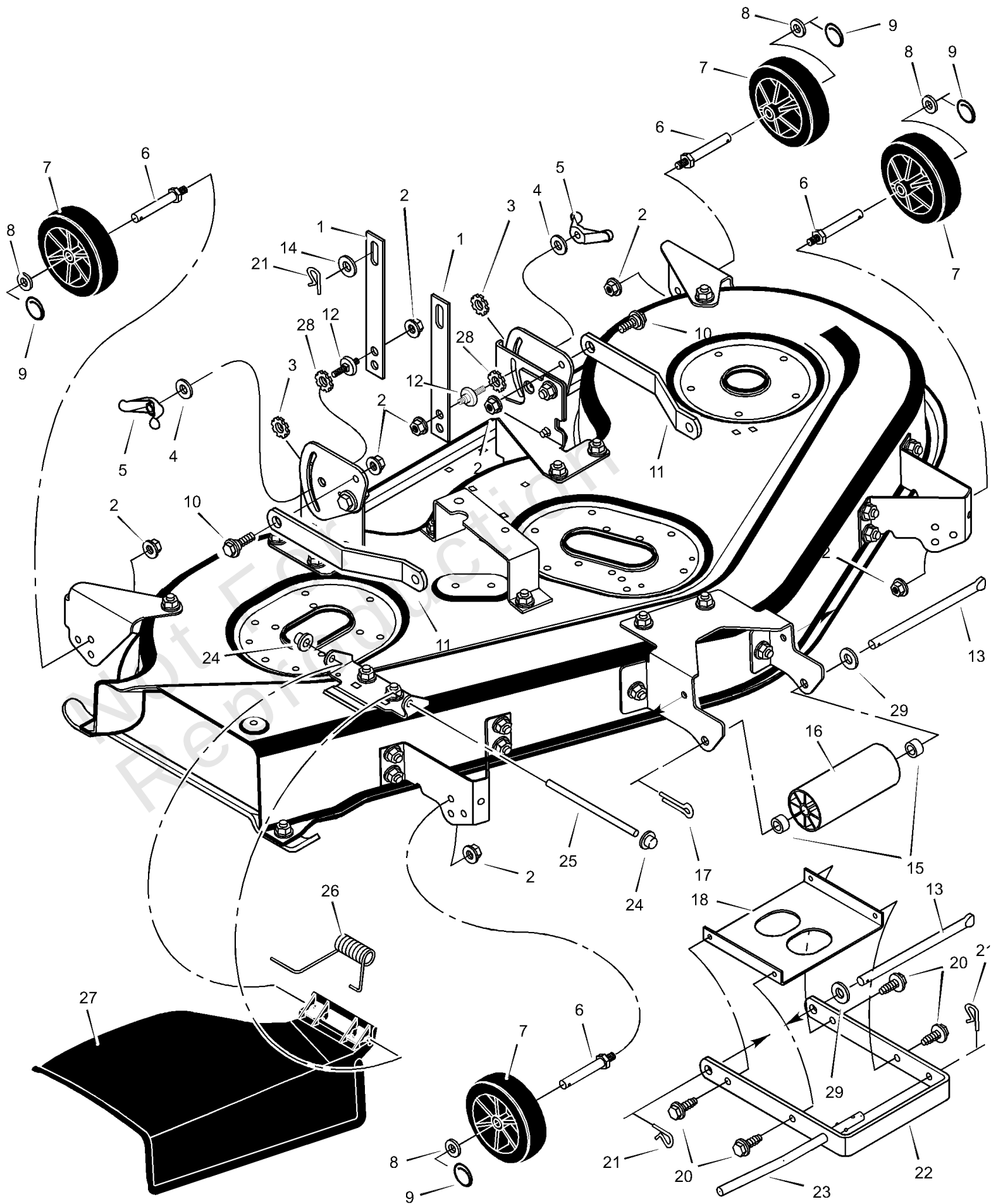
Note\* For information on Replacement Parts see the Central Parts Distributor in your area.

Note\* When you order a tire, make sure to give the brand name of the tire so that the tread pattern on the tire will match.

## Mower Housing Suspension (part 1)

Note: Unless noted otherwise, use the standard torque specifications

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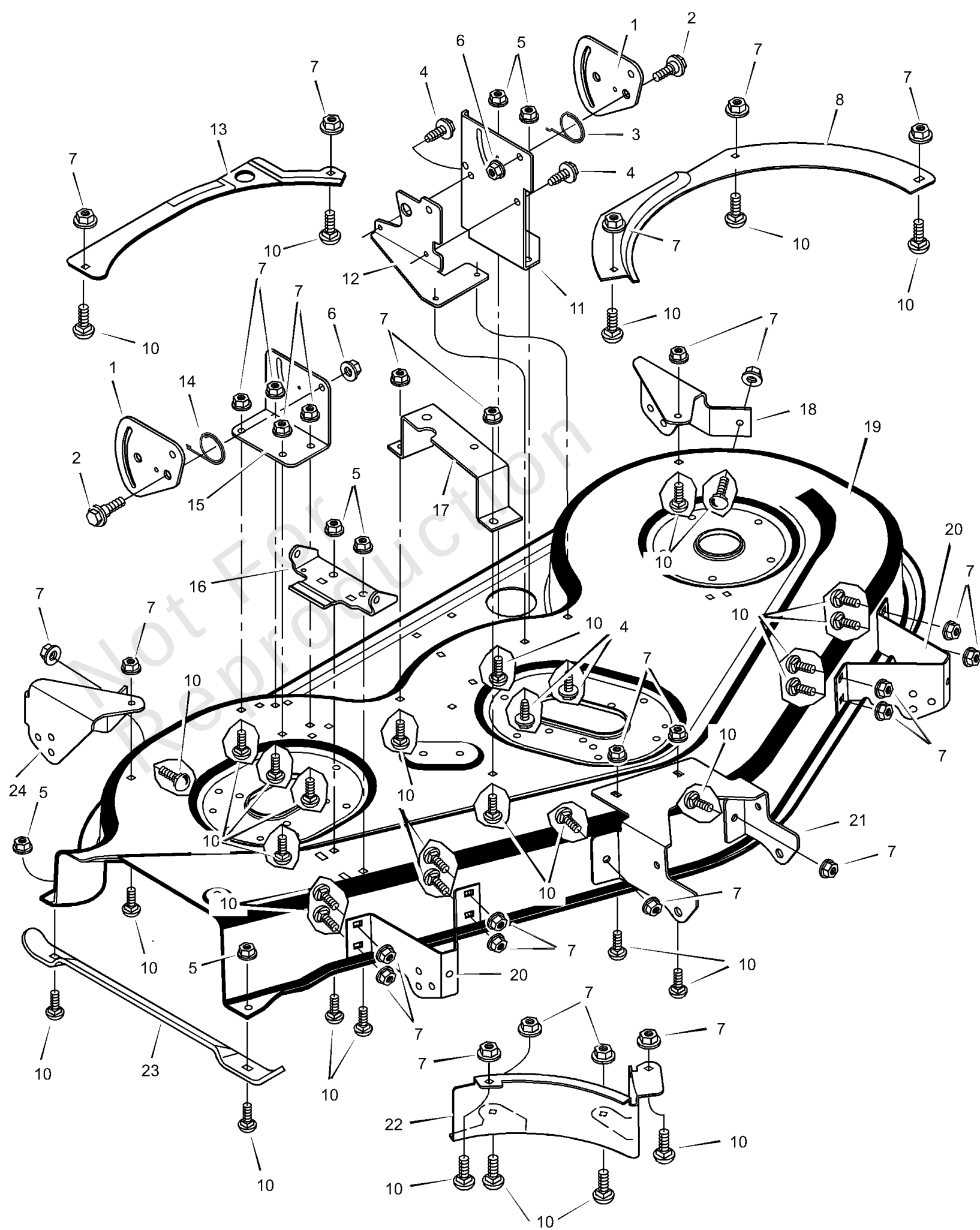
### ***Mower Housing Suspension (part 1)***

| REF NO | PART NO    | QTY | DESCRIPTION              |
|--------|------------|-----|--------------------------|
| 1      | 690550E700 |     | Link, Lift               |
| 2      | 015X84MA   |     | Nut, Flange              |
| 3      | 019X44MA   |     | Washer                   |
| 4      | 017X45MA   |     | WASHER,FLAT .33 1. 16    |
| 5      | 095004MA   |     | Wingnut                  |
| 6      | 094025MA   |     | BOLT, Gauge Wheel        |
| 7      | 092683MA   |     | Wheel, Gage              |
| 8      | 17X103MA   |     | Washer                   |
| 9      | 031X11MA   |     | Pin, Hair                |
| 10     | 009X52MA   |     | Bolt, Shoulder           |
| 11     | 094055E700 |     | Bracket, Rear Suspension |
| 12     | 095194     |     | Pin, Hanger              |
| 13     | 094996MA   |     | Rod, Deck Suspension     |
| 14     | 017X91 Z   |     | Washer                   |
| 15     | 091925MA   |     | Spacer                   |
| 16     | 092137MA   |     | Roller                   |
| 17     | 030X49MA   |     | Pin, Cotter              |
| 18     | 094604E700 |     | Stiffener                |
| 20     | 26X249MA   |     | Screw                    |
| 21     | 0031X4MA   |     | Pin, Hair                |
| 22     | 690539E700 |     | Hanger, Front            |
| 23     | 094158ZMA  |     | Rod, Front Hanger        |
| 24     | 028X23MA   |     | Cap, Push                |
| 25     | 092159ZMA  |     | Rod, Deflector           |
| 26     | 166X34MA   |     | Spring                   |
| 27     | 092100MA   |     | Deflector, Chute         |
| 28     | 019X44MA   |     | Lockwasher               |
| 29     | 17X103MA   |     | Washer                   |

Mower Housing Suspension (part 2)

Note: Unless noted otherwise, use the standard torque specifications

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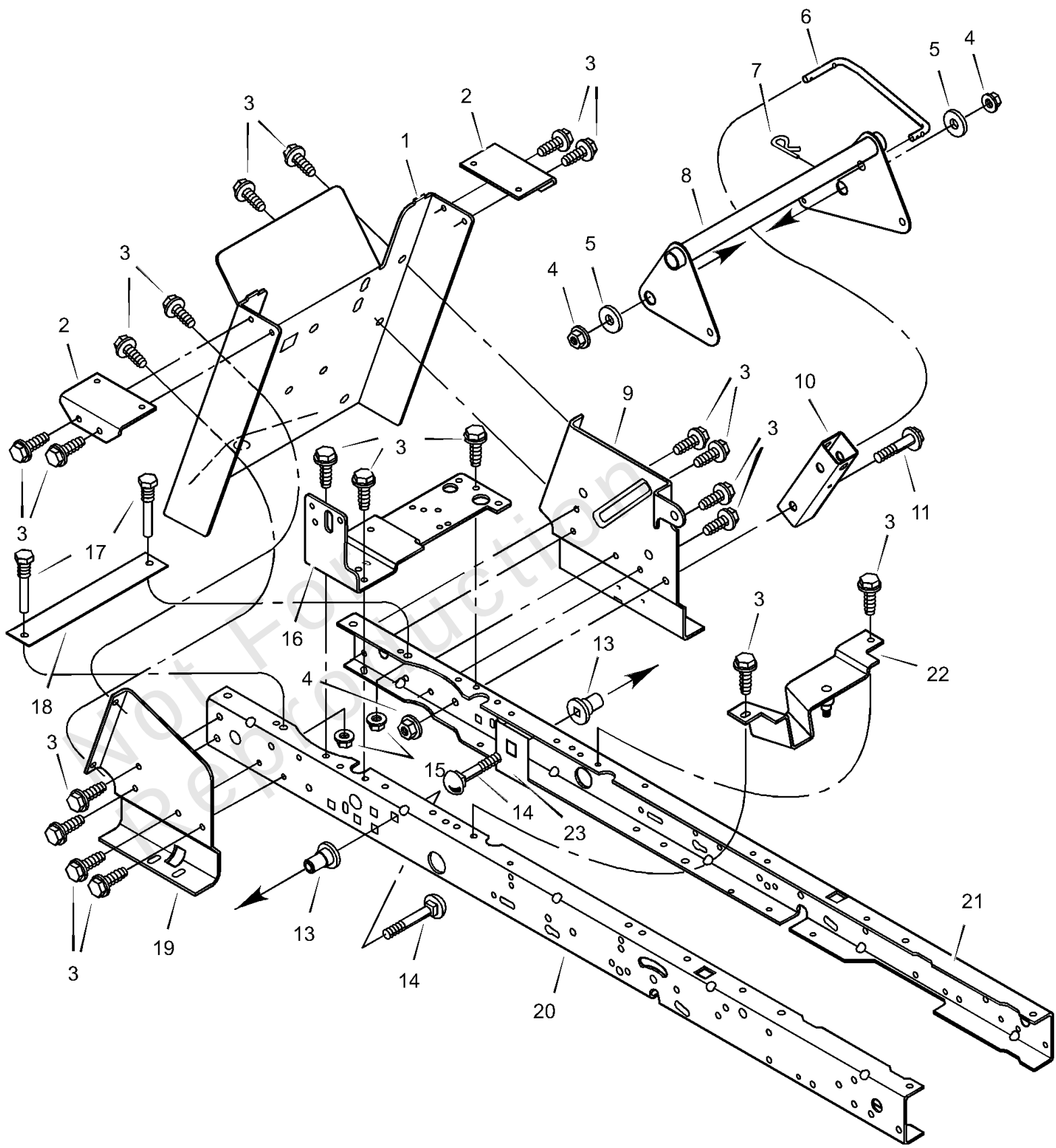
## ***Mower Housing Suspension (part 2)***

| REF NO | PART NO      | QTY | DESCRIPTION               |
|--------|--------------|-----|---------------------------|
| 1      | 690128E700   |     | Plate, Suspension         |
| 2      | 009X51MA     |     | BOLT-SHD.38-16X.499D      |
| 3      | 166X43MA     |     | Spring, Left Torsion      |
| 4      | 26X249MA     |     | Screw                     |
| 5      | 015X88MA     |     | Nut, Flange               |
| 6      | 015X84MA     |     | Nut, Flange               |
| 7      | 015X79MA     |     | Nut, Flange               |
| 8      | 094118E700   |     | Baffle, Left              |
| 10     | 002X53MA     |     | Bolt, Carriage            |
| 11     | 690164E700   |     | Bracket, Left Lifter      |
| 12     | 690078E700   |     | Brace, Lifter             |
| 13     | 094117E700   |     | Baffle, Bottom            |
| 14     | 166X42MA     |     | Spring, Right Torsion     |
| 15     | 094694E700   |     | Bracket, Right Lifter     |
| 16     | 092104E700   |     | Bracket, Hinge            |
| 17     | 690118E700   |     | Bracket, Bellcrank        |
| 18     | 094717E700   |     | Bracket, Left Gage Wheel  |
| 19     | 094400E700   |     | Housing, Blade            |
| 20     | 095180E700   |     | Bracket, Front Gage Wheel |
| 21     | 094693E700MA |     | Bracket, Front Deck       |
| 22     | 690092E700   |     | Baffle, Right             |
| 23     | 095176E700   |     | Bracket, Chute Support    |
| 24     | 094716E700   |     | Bracket, Rear Gage Wheel  |

Rear Frame Assembly

Note: Unless noted otherwise, use the standard torque specifications

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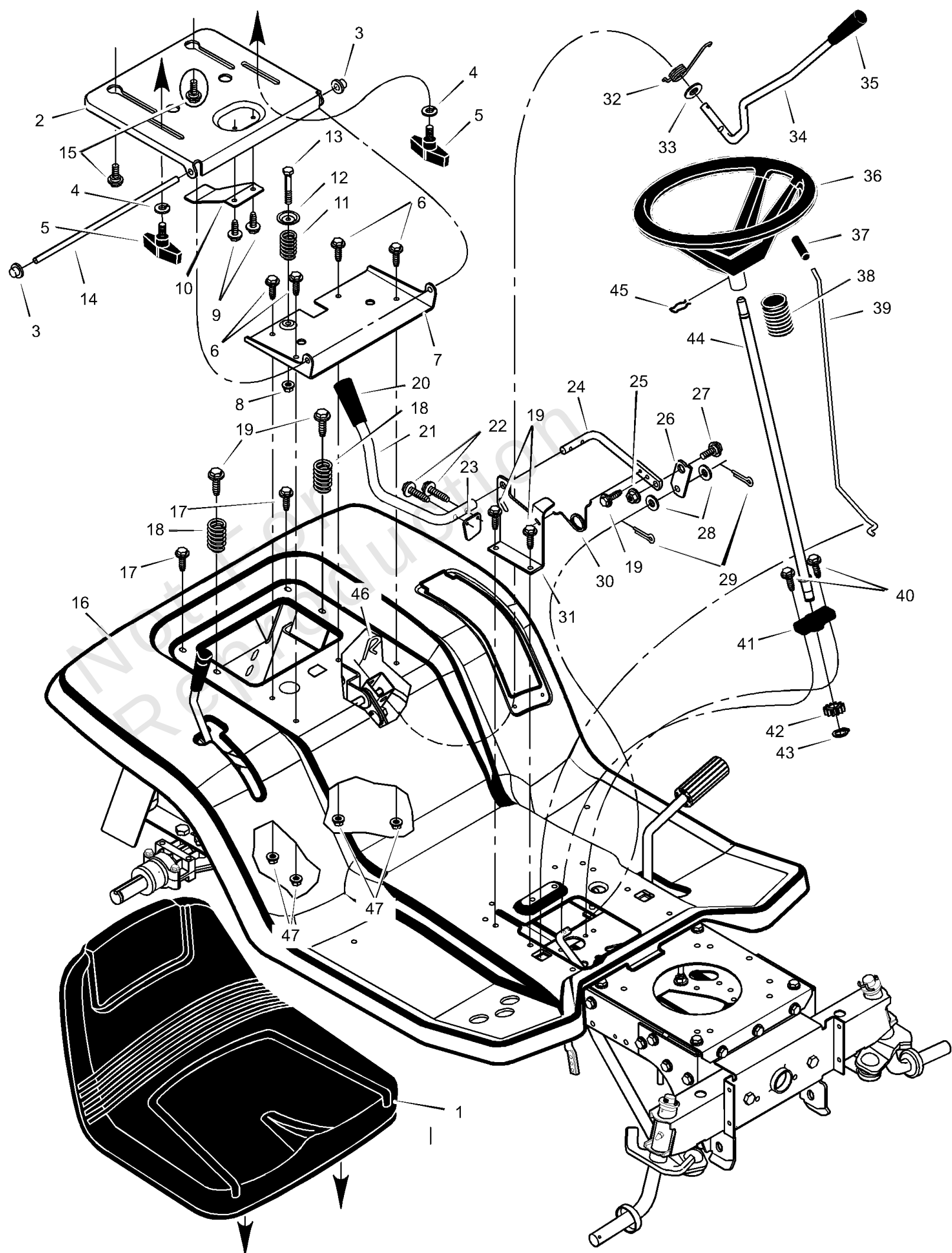
## Rear Frame Assembly

| REF NO | PART NO    | QTY | DESCRIPTION              |
|--------|------------|-----|--------------------------|
| 1      | 690094E700 |     | Frame, Rear Hitch        |
| 2      | 690077E700 |     | Bracket, Seat Deck       |
| 3      | 26X249MA   |     | Screw                    |
| 4      | 015X84MA   |     | Nut, Flange              |
| 5      | 17X168ZMA  |     | Washer                   |
| 6      | 690122E700 |     | Link, Lift Handle        |
| 7      | 0031X4MA   |     | Pin, Hair                |
| 8      | 690363E700 |     | Assembly, Lifter         |
| 9      | 690065E700 |     | Bracket, Left Transaxle  |
| 10     | 094015E700 |     | Bracket, Lift Pivot      |
| 11     | 009X53MA   |     | Bolt, Shoulder           |
| 13     | 690151MA   |     | Spacer, Lifter           |
| 14     | 002X85MA   |     | Bolt, Carriage           |
| 15     | 015X79MA   |     | Nut, Flange              |
| 16     | 690166E700 |     | Bracket, Right Shift     |
| 17     | 094384MA   |     | Screw, Guide             |
| 18     | 776101     |     | Plate                    |
| 19     | 690064E700 |     | Bracket, Right Transaxle |
| 20     | 690206E700 |     | Frame, Right             |
| 21     | 690207E700 |     | Frame, Left              |
| 22     | 690365 Z   |     | Bracket, Idler           |
| 23     | 690389E700 |     | Plate, Stiffening        |

# Seat Deck

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 52101x92A



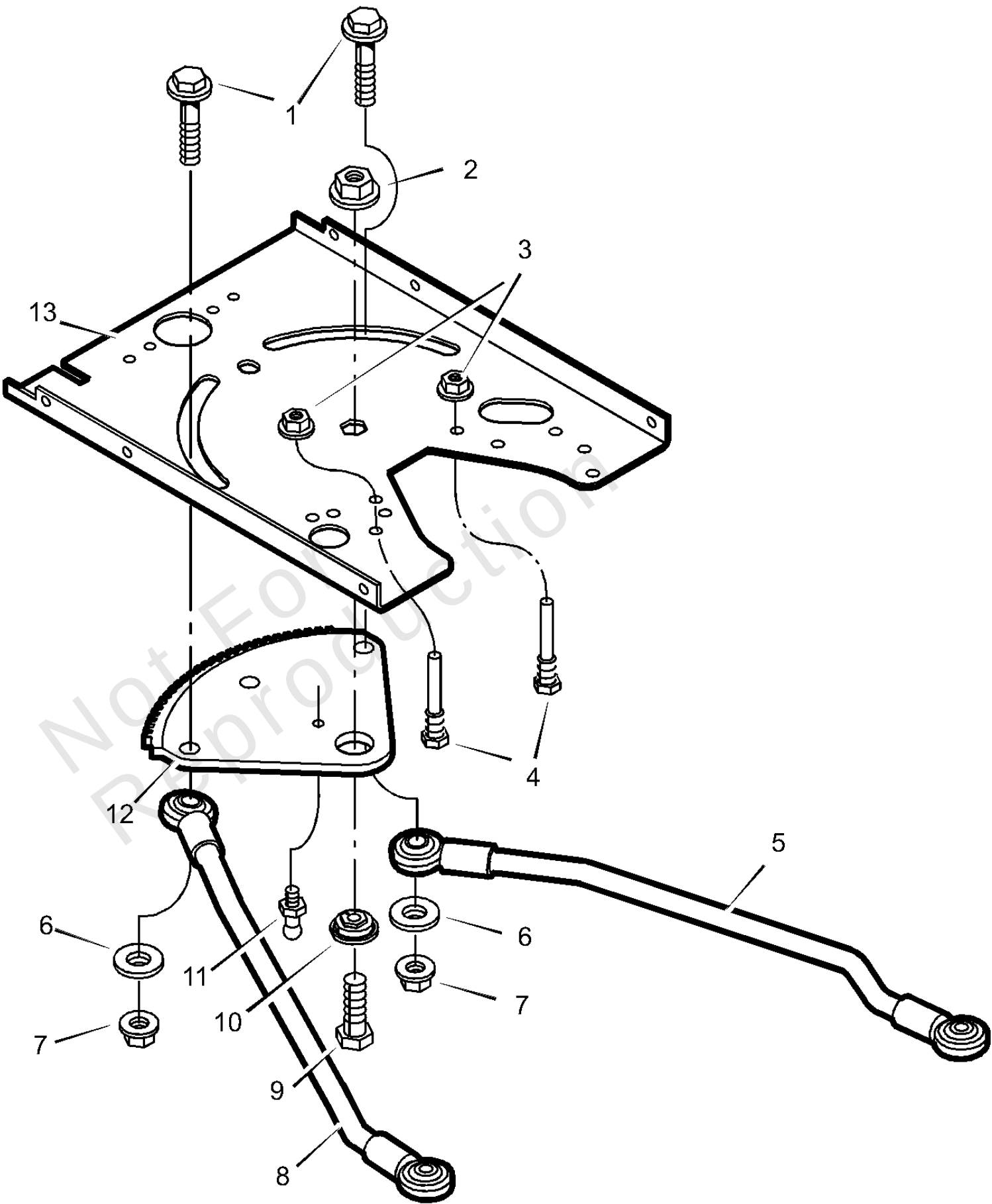
## Seat Deck

| REF NO | PART NO      | QTY | DESCRIPTION           |
|--------|--------------|-----|-----------------------|
| 1      | 094163       |     | Seat                  |
| 2      | 094154E700   |     | Support, Seat         |
| 3      | 028X23MA     |     | Push-On Cap           |
| 4      | 017X47MA     |     | Washer                |
| 5      | 094160       |     | Bolt, Wing            |
| 6      | 001X45MA     |     | Bolt                  |
| 7      | 094153E700MA |     | Bracket, Pivot        |
| 8      | 15X123MA     |     | Nut                   |
| 9      | 26X229MA     |     | Screw                 |
| 10     | 094057MA     |     | Spring, Leaf          |
| 11     | 164X31       |     | Spring                |
| 12     | 094155 Z     |     | Washer, Cup           |
| 13     | 009X55MA     |     | Bolt                  |
| 14     | 094156ZMA    |     | Rod, Pivot            |
| 15     | 009X56MA     |     | Bolt, Shoulder        |
| 16     | 095326E549   |     | Deck, Seat            |
| 17     | 26X263MA     |     | SCREW.25-20 S-T       |
| 18     | 164X30MA     |     | Spring                |
| 19     | 26X249MA     |     | Screw                 |
| 20     | 092698MA     |     | Grip                  |
| 21     | 094217 Z     |     | Handle, PTO           |
| 22     | 0025X3MA     |     | Screw, Hex            |
| 23     | 094022 Z     |     | Paddle, Switch        |
| 24     | 094017 Z     |     | Lever, PTO            |
| 25     | 015X84MA     |     | Nut                   |
| 26     | 094004 Z     |     | Link, PTO             |
| 27     | 009X39MA     |     | Shoulder, Bolt        |
| 28     | 017X57MA     |     | Washer                |
| 29     | 030X20MA     |     | Pin, Cotter           |
| 30     | 166X39MA     |     | Spring                |
| 31     | 094018E700   |     | Bracket, PTO          |
| 32     | 166X40MA     |     | Spring                |
| 33     | 17X103MA     |     | Washer                |
| 34     | 690533MA     |     | Handle, Lift          |
| 35     | 092697MA     |     | Grip                  |
| 36     | 094591       |     | Wheel, Steering       |
| 37     | 091079MA     |     | Grip                  |
| 38     | 054789MA     |     | Bellows               |
| 39     | 095005 Z     |     | Rod, Parking Brake    |
| 40     | 26X267MA     |     | Screw                 |
| 41     | 094124MA     |     | Bearing, Lower        |
| 42     | 690183MA     |     | GEAR - PINION         |
| 43     | 011X25MA     |     | E-Ring                |
| 44     | 094127       |     | Shaft, Steering       |
| 45     | 094131MA     |     | Clip, Retainer        |
| 46     | 0031X4MA     |     | Pin, Cotter           |
| 47     | 15X123MA     |     | Nut                   |
| --     | F-000709L    |     | Manual and Parts List |

Sector Gear

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 52101x92A



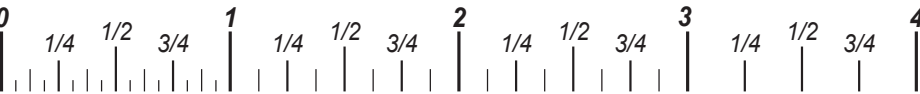
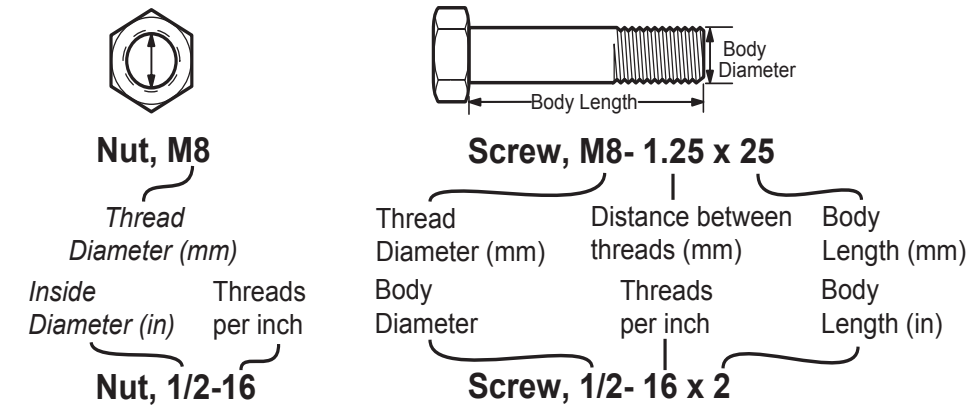
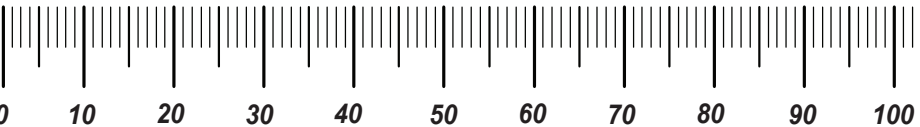
## Sector Gear

| REF NO | PART NO    | QTY | DESCRIPTION                     |
|--------|------------|-----|---------------------------------|
| 1      | 009X62MA   |     | Bolt, Shoulder                  |
| 2      | 15X111MA   |     | Nut, Lock                       |
| 3      | 015X79MA   |     | Nut, Flange                     |
| 4      | 094384MA   |     | Guide, Screw                    |
| 5      | 690146E700 |     | Link, Left Drag                 |
| 6      | 17X168ZMA  |     | Washer                          |
| 7      | 015X84MA   |     | Nut, Flange                     |
| 8      | 690145E700 |     | Link, Right Drag                |
| 9      | 001X84MA   |     | CAPSCREW, Hex Head, 5/16-18 x 1 |
| 10     | 690180MA   |     | Bearing, Sector Gear            |
| 11     | 092530MA   |     | Fitting, Lub                    |
| 12     | 690147E700 |     | Gear, Sector                    |
| 13     | 690551E700 |     | Plate, Steering                 |

# Hardware Identification & Torque Specifications

| Torque Specification Chart                             |                                                                                                |      |                                                                                                |      |                                                                                                 |      |                                                                                                 |      |
|--------------------------------------------------------|------------------------------------------------------------------------------------------------|------|------------------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------------------|------|
| FOR STANDARD METRIC MACHINE HARDWARE (Tolerance ± 20%) |                                                                                                |      |                                                                                                |      |                                                                                                 |      |                                                                                                 |      |
| Property Class                                         | <br>Class 5.6 |      | <br>Class 8.8 |      | <br>Class 10.9 |      | <br>Class 12.9 |      |
| Size Of Hardware                                       | in/lbs<br>ft/lbs                                                                               | Nm.  | in/lbs<br>ft/lbs                                                                               | Nm.  | in/lbs<br>ft/lbs                                                                                | Nm.  | in/lbs<br>ft/lbs                                                                                | Nm.  |
| M3                                                     | 5.88                                                                                           | .56  | 13.44                                                                                          | 1.28 | 19.2                                                                                            | 1.80 | 22.92                                                                                           | 2.15 |
| M4                                                     | 13.44                                                                                          | 1.28 | 30.72                                                                                          | 2.90 | 43.44                                                                                           | 4.10 | 52.56                                                                                           | 4.95 |
| M5                                                     | 26.4                                                                                           | 2.50 | 60.96                                                                                          | 5.75 | 5.97                                                                                            | 8.10 | 7.15                                                                                            | 9.7  |
| M6                                                     | 44.64                                                                                          | 4.3  | 7.3                                                                                            | 9.9  | 10.3                                                                                            | 14   | 12.1                                                                                            | 16.5 |
| M7                                                     | 5.2                                                                                            | 7.1  | 12.1                                                                                           | 16.5 | 16.9                                                                                            | 23   | 19.9                                                                                            | 27   |
| M8                                                     | 7.7                                                                                            | 10.5 | 17.7                                                                                           | 24   | 25                                                                                              | 34   | 29                                                                                              | 40   |
| M10                                                    | 15                                                                                             | 21   | 35                                                                                             | 48   | 50                                                                                              | 67   | 59                                                                                              | 81   |
| M12                                                    | 26                                                                                             | 36   | 61                                                                                             | 83   | 86.2                                                                                            | 117  | 103                                                                                             | 140  |
| M14                                                    | 42                                                                                             | 58   | 101                                                                                            | 132  | 136                                                                                             | 185  | 162                                                                                             | 220  |
| M16                                                    | 64                                                                                             | 88   | 147                                                                                            | 200  | 210                                                                                             | 285  | 250                                                                                             | 340  |
| M18                                                    | 89                                                                                             | 121  | 202                                                                                            | 275  | 287                                                                                             | 390  | 346                                                                                             | 470  |
| M20                                                    | 126                                                                                            | 171  | 290                                                                                            | 390  | 405                                                                                             | 550  | 486                                                                                             | 660  |
| M22                                                    | 169                                                                                            | 230  | 390                                                                                            | 530  | 559                                                                                             | 745  | 656                                                                                             | 890  |
| M24                                                    | 217                                                                                            | 295  | 497                                                                                            | 375  | 708                                                                                             | 960  | 840                                                                                             | 1140 |
| M27                                                    | 320                                                                                            | 435  | 733                                                                                            | 995  | 1032                                                                                            | 1400 | 1239                                                                                            | 1680 |
| M30                                                    | 435                                                                                            | 590  | 995                                                                                            | 1350 | 1401                                                                                            | 1900 | 1681                                                                                            | 2280 |
| M33                                                    | 590                                                                                            | 800  | 1349                                                                                           | 1830 | 1902                                                                                            | 2580 | 2278                                                                                            | 3090 |
| M36                                                    | 759                                                                                            | 1030 | 1740                                                                                           | 2360 | 2441                                                                                            | 3310 | 2935                                                                                            | 3980 |
| M39                                                    | 988                                                                                            | 1340 | 2249                                                                                           | 3050 | 3163                                                                                            | 4290 | 3798                                                                                            | 5150 |

The guides and ruler furnished below are designed to help you select the appropriate hardware.



## Standard Hardware Sizing

When a washer or nut is identified as 1/2" (M8), this is the *Nominal size*, meaning the *inside diameter* is 1/2 inch (8mm metric thread diameter); if a second number is present it represents the *threads per inch* (distance between threads).

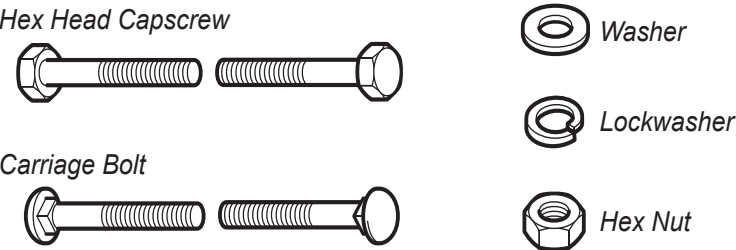
When bolt or capscrew is identified as 1/2 - 16 x 2" (M8 - 1.25 x 50), this means the *Nominal size*, or body diameter is 1/2 inch (8mm metric thread diameter), the second number, 16, represents the *threads per inch*, (*distance between threads*). The final number is the body length of the bolt or screw, 2 inches (50mm).

| Torque Specification Chart                      |                                                                                                    |       |                                                                                                    |       |                                                                                                    |         |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------|-------|----------------------------------------------------------------------------------------------------|-------|----------------------------------------------------------------------------------------------------|---------|
| FOR STANDARD MACHINE HARDWARE (Tolerance ± 20%) |                                                                                                    |       |                                                                                                    |       |                                                                                                    |         |
| Hardware Grade                                  | <br>SAE Grade 2 |       | <br>SAE Grade 5 |       | <br>SAE Grade 8 |         |
| Size Of Hardware                                | in/lbs<br>ft/lbs                                                                                   | Nm.   | in/lbs<br>ft/lbs                                                                                   | Nm.   | in/lbs<br>ft/lbs                                                                                   | Nm.     |
| 8-32                                            | 19                                                                                                 | 2.1   | 30                                                                                                 | 3.4   | 41                                                                                                 | 4.6     |
| 8-36                                            | 20                                                                                                 | 2.3   | 31                                                                                                 | 3.5   | 43                                                                                                 | 4.9     |
| 10-24                                           | 27                                                                                                 | 3.1   | 43                                                                                                 | 4.9   | 60                                                                                                 | 6.8     |
| 10-32                                           | 31                                                                                                 | 3.5   | 49                                                                                                 | 5.5   | 68                                                                                                 | 7.7     |
| 1/4-20                                          | 66                                                                                                 | 7.6   | 8                                                                                                  | 10.9  | 12                                                                                                 | 16.3    |
| 1/4-28                                          | 76                                                                                                 | 8.6   | 10                                                                                                 | 13.6  | 14                                                                                                 | 19.0    |
| 5/16-18                                         | 11                                                                                                 | 15.0  | 17                                                                                                 | 23.1  | 25                                                                                                 | 34.0    |
| 5/16-24                                         | 12                                                                                                 | 16.3  | 19                                                                                                 | 25.8  | 29                                                                                                 | 34.0    |
| 3/8-16                                          | 20                                                                                                 | 27.2  | 30                                                                                                 | 40.8  | 45                                                                                                 | 61.2    |
| 3/8-24                                          | 23                                                                                                 | 31.3  | 35                                                                                                 | 47.6  | 50                                                                                                 | 68.0    |
| 7/16-14                                         | 30                                                                                                 | 40.8  | 50                                                                                                 | 68.0  | 70                                                                                                 | 95.2    |
| 7/16-20                                         | 35                                                                                                 | 47.6  | 55                                                                                                 | 74.8  | 80                                                                                                 | 108.8   |
| 1/2-13                                          | 50                                                                                                 | 68.0  | 75                                                                                                 | 102.0 | 110                                                                                                | 149.6   |
| 1/2-20                                          | 55                                                                                                 | 74.8  | 90                                                                                                 | 122.4 | 120                                                                                                | 163.2   |
| 9/16-12                                         | 65                                                                                                 | 88.4  | 110                                                                                                | 149.6 | 150                                                                                                | 204.0   |
| 9/16-18                                         | 75                                                                                                 | 102.0 | 120                                                                                                | 163.2 | 170                                                                                                | 231.2   |
| 5/8-11                                          | 90                                                                                                 | 122.4 | 150                                                                                                | 204.0 | 220                                                                                                | 299.2   |
| 5/8-18                                          | 100                                                                                                | 136   | 180                                                                                                | 244.8 | 240                                                                                                | 326.4   |
| 3/4-10                                          | 160                                                                                                | 217.6 | 260                                                                                                | 353.6 | 386                                                                                                | 525.0   |
| 3/4-16                                          | 180                                                                                                | 244.8 | 300                                                                                                | 408.0 | 420                                                                                                | 571.2   |
| 7/8-9                                           | 140                                                                                                | 190.4 | 400                                                                                                | 544.0 | 600                                                                                                | 816.0   |
| 7/8-14                                          | 155                                                                                                | 210.8 | 440                                                                                                | 598.4 | 660                                                                                                | 897.6   |
| 1-8                                             | 220                                                                                                | 299.2 | 580                                                                                                | 788.8 | 900                                                                                                | 1,244.0 |
| 1-12                                            | 240                                                                                                | 326.4 | 640                                                                                                | 870.4 | 1,000                                                                                              | 1,360.0 |

### NOTES

- These torque values are to be used for all hardware excluding: locknuts, self-tapping screws, thread forming screws, sheet metal screws and socket head setscrews.
- Recommended seating torque values for locknuts:
  - for prevailing torque locknuts - use 65% of grade 5 torques.
  - for flange whizlock nuts and screws - use 135% of grade 5 torques.
- Unless otherwise noted on assembly drawings, all torque values must meet this specification.

## Common Hardware Types



## Wrench & Fastener Size Guide

|                                                                                                                           |                                                                                                                           |                                                                                                                           |                                                                                                                                                         |                                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <br>1/4" Bolt or Nut<br>Wrench—7/16" | <br>5/16" Bolt or Nut<br>Wrench—1/2" | <br>3/8" Bolt or Nut<br>Wrench—9/16" | <br>7/16" Bolt or Nut<br>Wrench (Bolt)—5/8"<br>Wrench (Nut)—11/16" | <br>1/2" Bolt or Nut<br>Wrench—3/4" |
| M6 Bolt or Nut<br>Wrench—10mm                                                                                             | M8 Bolt or Nut<br>Wrench—13mm                                                                                             | M10 Bolt or Nut<br>Wrench—17mm                                                                                            | M12 Bolt or Nut<br>Wrench—19mm                                                                                                                          | M14 Bolt or Nut<br>Wrench—22mm                                                                                           |

