

H&S

GM 170



WARNING

READ AND UNDERSTAND THIS MANUAL
BEFORE OPERATING THIS EQUIPMENT

UNSAFE OPERATION OR MAINTENANCE OF THIS EQUIPMENT CAN RESULT IN
SERIOUS INJURY OR DEATH

OPERATOR'S MANUAL AND PARTS LIST

Revision #2 6-2010
Starting Serial #010185

HSMFG0106

Manufactured By
H&S MANUFACTURING CO., INC.

P.O. BOX 768 (715) 387-3414 FAX (715) 384-5463
MARSHFIELD, WISCONSIN 54449

H&S GM 170 Specifications

| | |
|---------------------------|--|
| Tank Capacity –Bushel | 135 |
| Tank Capacity – Cubic Ft. | 170 |
| Tank Diameter | 72" |
| Diameter of Mixing Auger | 14" Diameter w/30" Base |
| Ladder | Standard -Front Mount Over Mill |
| Tank Windows | 2 Full Length & 1 Port Hole Style |
| Overall Height | 10' 7" |
| Overall Width | 7' 9" w/o Auger Feeder |
| Overall Width | 8' 8" w/Auger Feeder |
| Overall Length | 15' 8" |
| Ground Clearance | 11½" |
| Supplement Hopper | 23"W x 18"L - 35" Above Ground |
| Feeder | Gravity Hopper or Feed Auger |
| PTO Drive | 540 or 1000 RPM |
| H.P. Requirement | 540 RPM up to 115 HP - 1000 RPM up to 145 HP |
| Tires | 12.5L-15 - 20 Ply |
| Jack | Standard |
| Weight w/Auger Feeder | 3,600# |

Auger Feeder

| | |
|-----------------------------|--|
| Auger Feeder Length | 84" |
| Auger Feeder Auger Diameter | 12" |
| Infeed Hopper | 42" w/Fold-In-Flare - Adjustable as low as 20" |
| Drive | Direct Drive Independent Hydraulic Motor |

Mill

| | |
|---------------------|---------------------------------|
| Hammermill Width | 21" |
| Cylinder Diameter | 20" |
| Grinder Drive | 8 - "A" Section Banded V-Belt |
| Grinder Hammers | 66-4 Way Reversible Steel Alloy |
| Grinder Screen Area | 600 Square Inches |
| Throat Magnets | 2 - 4" x 18" |
| Speed | 2700 RPM |

Discharge Conveyor

| | |
|--------------------------------|------------------|
| Unloading Auger Tube Diameter | 8" |
| Unloading Auger Length | 12' |
| Unloading Auger Rotation | 300 Degrees |
| Unloading Auger Reach Standard | 19' @ 53 Degrees |

Drive System - Self-Contained - Includes Pulley-Driven Pump, Reservoir & Pressure Relief Valve

| | |
|---------------------|--------------------|
| Pump Pressure | 3,200 PSI Maximum |
| Oil Flow | 10.5 G.P.M. |
| Hydraulic Reservoir | Cyclonic Reservoir |
| Oil Filter | 10 Micron |

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

Figure 1
Frame

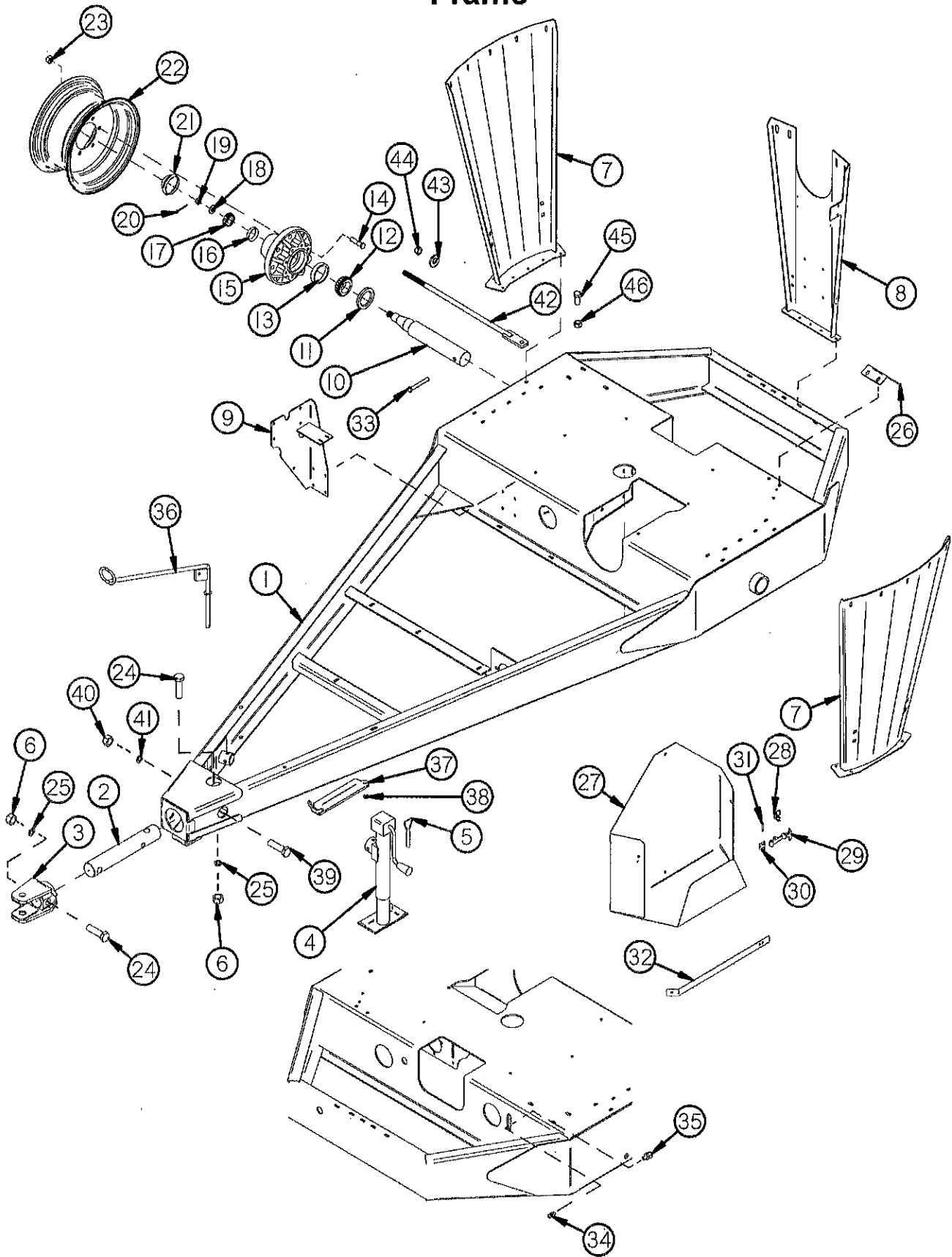


Figure 1 Frame

| ITEM # | PART # | DESC. |
|--------|-----------|-----------------------------|
| 1 | GM72 | Frame |
| 2 | GM73 | Hitch Shaft |
| 3 | GM74 | Hitch |
| 4 | GM396 | Jack |
| 5 | 12N13 | Jack Pin & Chain |
| 6 | T151 | 1" Nut |
| 7 | GM76 | Tank Side Support |
| 8 | GM77 | Tank Back Support |
| * | F97 | SMV Bracket |
| 9 | GM78 | Oil Tank Bracket |
| 10 | GM79 | Spindle |
| 11 | B90 | Seal |
| 12 | B91 | Inner Bearing |
| 13 | B91A | Inner Race |
| 14 | 26G5A | Stud 5/8"-18 |
| 15 | 26G4A | Hub (821) |
| 16 | B94A | Outer Race |
| 17 | B94 | Outer Bearing |
| 18 | B4 | Washer |
| 19 | B3 | Nut |
| 20 | B31 | Cotter Pin |
| 21 | B2 | Hub Cap |
| 22 | RG73 | Wheel (W-51350) |
| * | GM394 | Tire (12.5L x 15 20 Ply) |
| 23 | 26G6A | Lug Nut 5/8"-18 |
| 24 | GM80 | 1" x 5" GR 5 Bolt |
| 25 | DWM171 | 1" Lock Washer |
| 26 | GM397 | Flow Control Bracket |
| 27 | GM398 | Screen Holder |
| 28 | X193 | Latch Keeper |
| 29 | X192 | Rubber Latch |
| 30 | X194 | Latch Mounting Bracket |
| 31 | X195 | Latch Pin |
| 32 | GM399 | Screen Holder Strap |
| 33 | B10 | 1/2" x 4" GR. 5 Bolt |
| 34 | G89 | Grease Zerk (#1641) |
| 35 | GM424 | 1/4"-28 Grease Line Adapter |
| 36 | GM440 | Grinder Hose Holder |
| 37 | 42N2 | PTO Holder |
| 38 | 42N3 | Spring (MB1000-035) |
| 39 | GM183 | 3/4" X 4-1/2" GR 5 Bolt |
| 40 | GM417 | 3/4"-10 Nut |
| 41 | RG199 | 3/4" Lock Washer |
| 42 | GM518 | Rod |
| 43 | 33SV95 | Washer |
| 44 | YNNY24005 | 3/4"-16 Nylock Nut |
| 45 | YBHH24001 | 3/4"-10 x 1" Gr.5 Bolt |
| 46 | YNLC24005 | 3/4"-10 Lock Nut |

* Means Not Shown

Figure 2
Tank

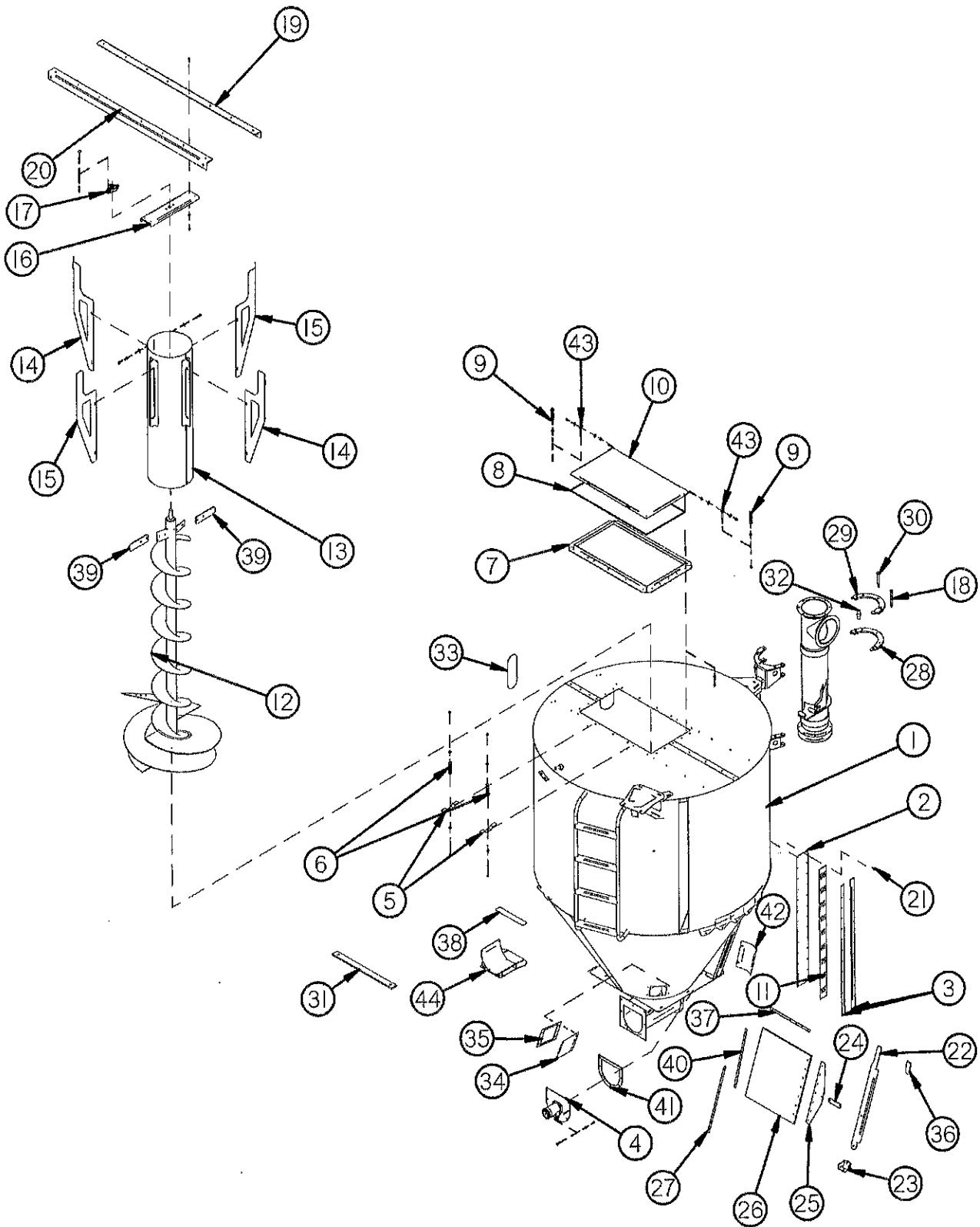


Figure 2 Tank

| ITEM # | PART # | DESC. |
|--------|-------------|--|
| 1 | GM301 | Tank |
| 2 | GM302 | Window |
| 3 | GM303 | Window Frame |
| 4 | GM304 | Motor Mount |
| 5 | GM305 | Lid Latch |
| 6 | GM225 | Latch Spring (A262) |
| 7 | GM307 | Lid Frame |
| 8 | GM308 | Lid Gasket |
| 9 | GM309 | Spring (A162) |
| 10 | GM310 | Lid |
| 11 | GM-A & GM-B | Decal (Bushel Scale - upper and lower) |
| 12 | GM311 | Mixing Auger |
| 13 | GM312 | Mixing Auger Tube |
| 14 | GM313 | Mixing Tube Support B |
| 15 | GM314 | Mixing Tube Support |
| 16 | GM315 | Mixing Auger Top Support |
| 17 | T40 | Bearing |
| 18 | GM463 | 1/2" x 5" GR.5 Bolt Full Thread |
| 19 | GM317 | Tank Top Frame Channel Back |
| 20 | GM318 | Tank Top Frame Channel Front |
| 21 | GM234 | Pop Rivet 3/16" x .700" (0155997) |
| 22 | GM334 | Door Handle |
| 23 | GM335 | Door Stop |
| 24 | GM336 | Door Linkage |
| 25 | GM337 | Door Edge |
| 26 | GM338 | Door |
| 27 | GM339 | Door Seal Strap |
| * | GM348 | Rubber Door Seal Front (Left) |
| * | GM349 | Rubber Door Seal Back (Right) |
| 28 | GM340 | Split Ring Bottom |
| 29 | GM341 | Split Ring Top |
| 30 | GM342 | Step Bolt |
| 31 | GM442 | Poly Strip |
| 32 | GM345 | Roller |
| 33 | GM346 | Top Sight Window |
| * | GM347 | Window Gasket |
| 34 | GM356 | Cleanout Door |
| 35 | GM357 | Cleanout Gasket |
| 36 | S403 | Handle Grip |
| 37 | GM391 | Inside Door Seal Strap |
| * | GM392 | Inside Door Seal |
| 38 | GM435 | Safety Tread |
| 39 | GM437 | Paddle Mixer |
| 40 | GM438 | Door Seal Strap |
| * | GM439 | Rubber Door Seal |
| 41 | GM320 | Auger Bottom Cap Spacer |
| 42 | GM488** | Auger Cleanout Cover |
| * | GM357** | Felt Gasket |
| 43 | GM513 | 5/16" x 2-3/4" I-Bolt |
| 44 | GM527 | Auger Adjustable Cradle |

* Means Not Shown

** Means Used on Serial #800111 and Higher

Figure 3
Concentrate Hopper & Collector

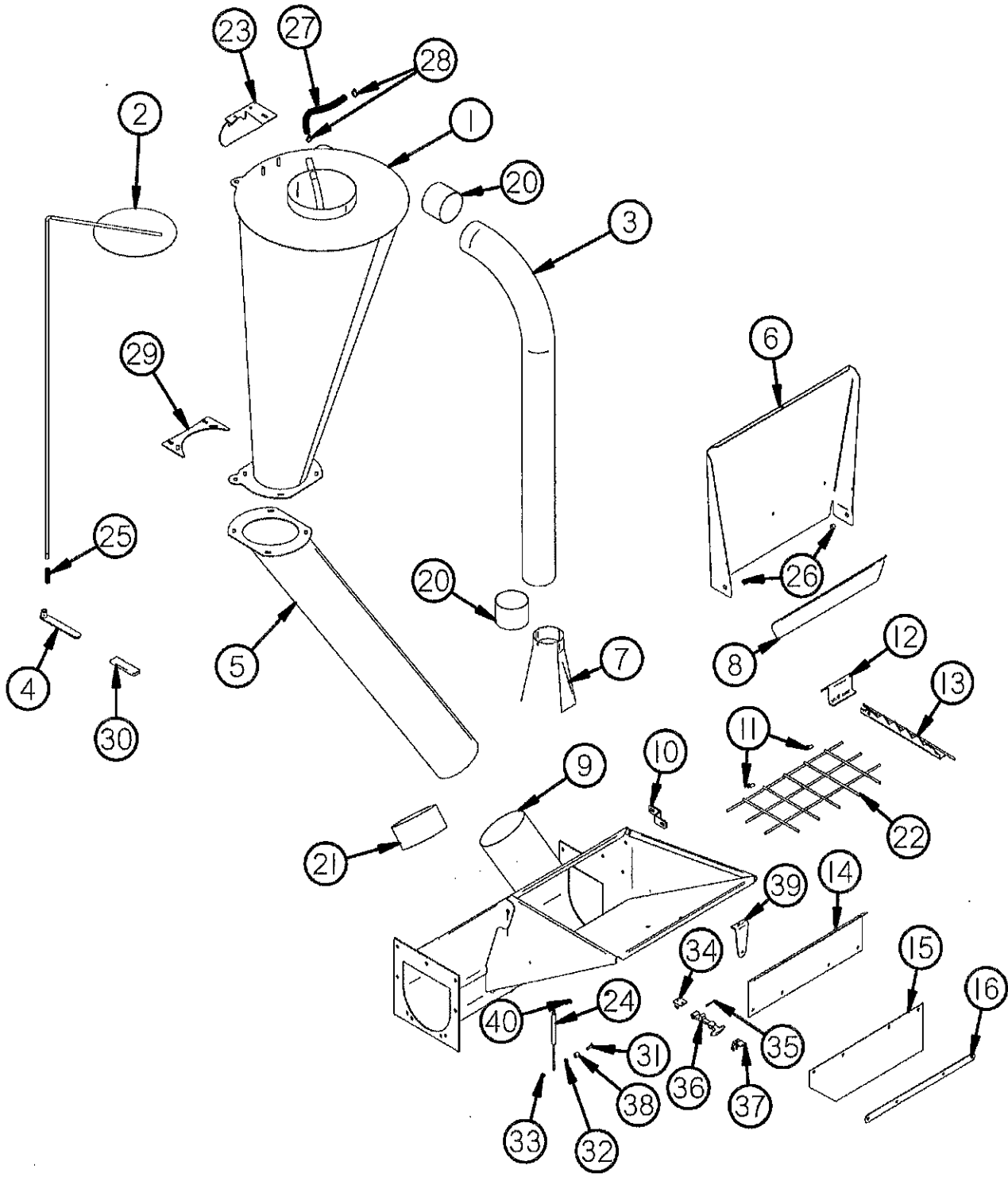


Figure 3 Concentrate Hopper & Collector

| ITEM # | PART # | DESC. |
|--------|-----------|---------------------------------|
| 1 | GM81 | Dust Collector |
| 2 | GM82 | Dust Collector Cover |
| 3 | GM83 | Blower Pipe |
| 4 | GM84 | Cover Handle |
| 5 | GM85 | Dust Collector Pipe |
| 6 | GM86 | Cover Hopper |
| * | GM420 | Cover Seal |
| 7 | GM87 | Blower Transition Chute |
| 8 | GM88 | Stop Cover |
| 9 | GM89 | Supplement Hopper |
| 10 | GM90 | Retainer Guard |
| 11 | GM91 | Hose Clamp |
| 12 | GM92 | Support Breaker |
| 13 | GM93 | Breaker Bar |
| 14 | GM94 | Dust Shield |
| 15 | GM95 | Dust Flap |
| 16 | GM96 | Dust Flap Retainer |
| 20 | GM100 | Blower Pipe Seal |
| 21 | GM101 | Dust Collector Seal |
| 22 | GM360 | Hopper Grate |
| 23 | GM368 | Adjustable Mount Plate |
| 24 | SD190 | Gas Strut |
| 25 | 17G128 | Spring |
| 26 | GM443 | Supplement Hopper Door Pivot |
| 27 | GM452 | 3/4" x 14" Hose |
| 28 | GM453 | 1" Hose Clamp |
| 29 | GM460 | Adjustable Support Bottom |
| 30 | GM370 | Handle Grip |
| 31 | YBHH62010 | Bolt 8-32 x 1-1/4" |
| 32 | YNHX62005 | Nut 8-32 |
| 33 | YNNY62005 | Nylock Nut 8-32 |
| 34 | X194 | Latch Mounting Bracket |
| 35 | X195 | Latch Pin |
| 36 | X192 | Rubber Latch |
| 37 | X193 | Latch Catch Bracket |
| 38 | GM525 | Spacer (Right Side Bottom Only) |
| 39 | GM526 | Latch Bracket |
| 40 | YBHH62005 | Bolt 8-32 x 3/4" |

* Means Not Shown

Figure 4
DriveLine

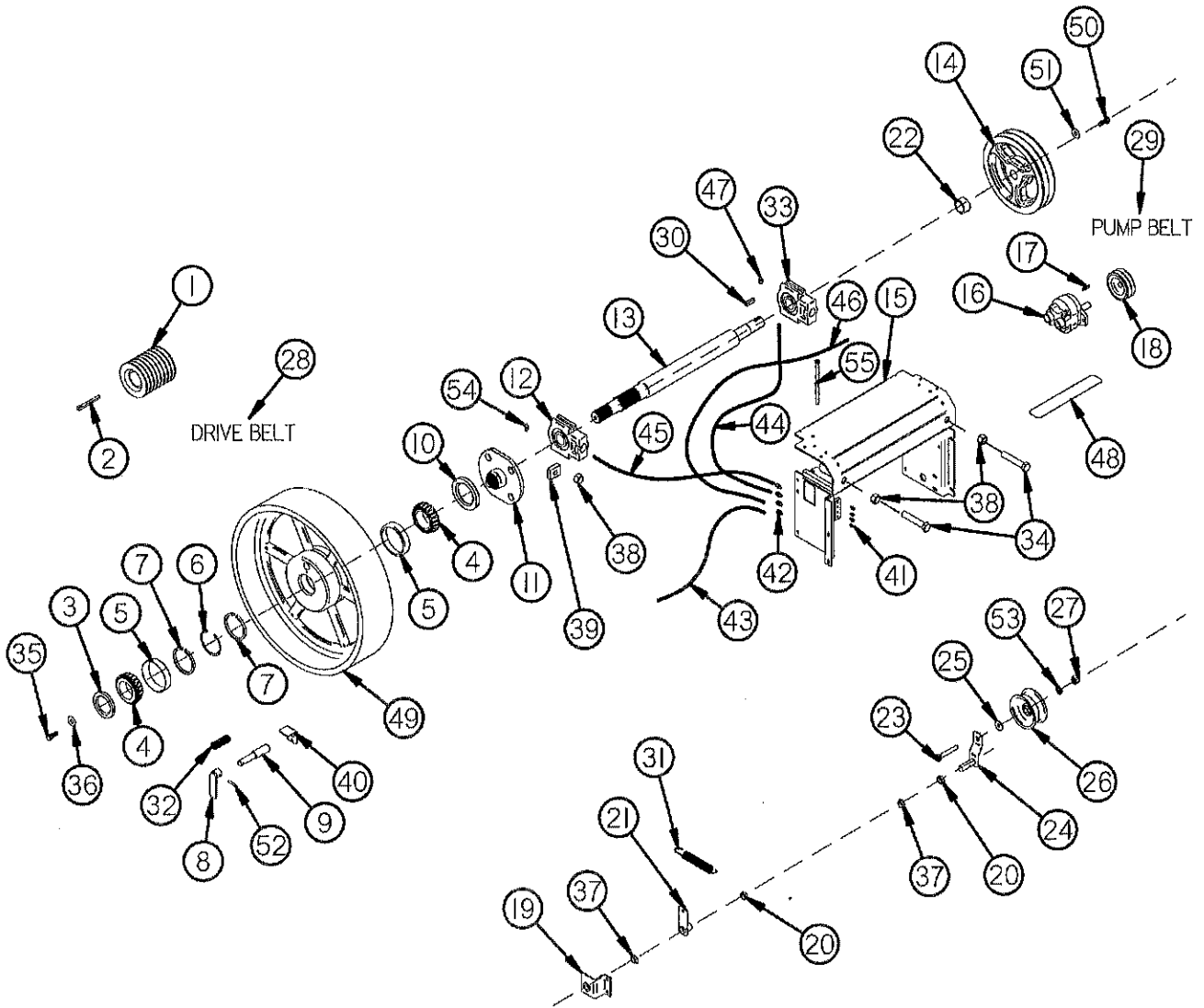


Figure 4 DriveLine

| ITEM # | PART # | DESC. | ITEM # | PART # | DESC. |
|--------|--------|--|--------|-----------|-----------------------------|
| 1 | GM102 | Mill Sheave 540 RPM | 45 | GM427 | Grease Line 20" |
| * | GM103 | Mill Sheave 1000 RPM | 46 | GM428 | Grease Line 85" |
| 2 | GM104 | Key 3/8" Taper | 47 | GM429 | 1/4"-28 90° Adapter |
| 3 | GM105 | Seal (22338) | 48 | GM435 | Safety Tread |
| 4 | GM106 | Outer Bearing (LM501349) | 49 | GM41 | Flywheel |
| 5 | GM107 | Race (LM501310) | 50 | GM456 | 1/2"-20 x 1-1/4" GR 5 Bolt |
| 6 | GM108 | Snap Ring | 51 | GM124 | 540 Sheave Washer |
| 7 | GM109 | Spacer (2) | 52 | GM40 | 1/4" x 1-1/4" Expansion Pin |
| 8 | GM110 | Clutch Handle | 53 | T69 | 5/8" Lock Washer |
| 9 | GM111 | Clutch Pin | 54 | GM419 | 1/8" Grease Line Adapter |
| 10 | GM112 | Seal (22430) | 55 | YBHH12240 | Bolt 3/8" x 6-1/2" Gr. 5 |
| 11 | GM113 | Flywheel Clutch | | | |
| 12 | GM114 | Bearing (UCT-210-31 11/16) | | | |
| 13 | GM115 | Main Drive Shaft | | | |
| 14 | GM508 | Pump Drive Sheave (540 RPM) 2AK124 | | | |
| * | GM117 | Pump Drive Sheave (1000 RPM) 2AK74 | | | |
| 15 | GM118 | Drive Shaft Carrier | | | |
| 16 | GM14 | Pump | | | |
| 17 | GM275 | Key 3/16" x 1" (Square Key Round Ends) | | | |
| 18 | GM120 | Pump Sheave | | | |
| 19 | GM121 | Idler Shaft Support | | | |
| 20 | GM122 | Spacer | | | |
| 21 | GM123 | Arm | | | |
| 22 | GM444 | Sheave Spacer (540 & 1000 RPM) | | | |
| 23 | BFR438 | Bolt 5/8" x 2" | | | |
| 24 | GM125 | Idler Arm | | | |
| 25 | RG8 | 5/8" Flat Washer | | | |
| 26 | GM127 | Idler Pulley | | | |
| 27 | GM128 | 5/8"-11 Nut | | | |
| 28 | GM129 | V Belt (8/A91) (540 RPM) 93" | | | |
| * | GM130 | V Belt (8/A96) (1000 RPM) 98" | | | |
| 29 | GM131 | V Belt (2/A62) (540 RPM) 64" | | | |
| * | GM132 | V Belt (2/A52) (1000 RPM) 54" | | | |
| 30 | G12 | Key 5/16" x 1" (540 & 1000 RPM) | | | |
| 31 | GM410 | Spring (B11108) 540 RPM | | | |
| * | GM454 | Spring (U10063) 1000 RPM | | | |
| 32 | GM411 | Spring (13E29) | | | |
| 33 | GM413 | Bearing (UCT208-24-11/16) | | | |
| 34 | GM306 | Bolt 3/4" x 5" GR. 5 Full Thread | | | |
| 35 | GM414 | 1/2"-20 x 1-1/4" GR. 5 Bolt w/Hole | | | |
| 36 | GM415 | Input Yoke Washer | | | |
| 37 | GM416 | Idler Pivot Bushing | | | |
| 38 | GM417 | 3/4"-10 Nut | | | |
| 39 | GM445 | Slider Bearing Nut | | | |
| 40 | GM423 | Flywheel Clutch Bracket | | | |
| 41 | G89 | Grease Zerk (#1641) | | | |
| 42 | GM424 | 1/4"-28 Grease Line Adapter | | | |
| 43 | GM425 | Grease Line 70" | | | |
| 44 | GM426 | Grease Line 25" | | | |

* Means Not Shown

Figure 5
Mill

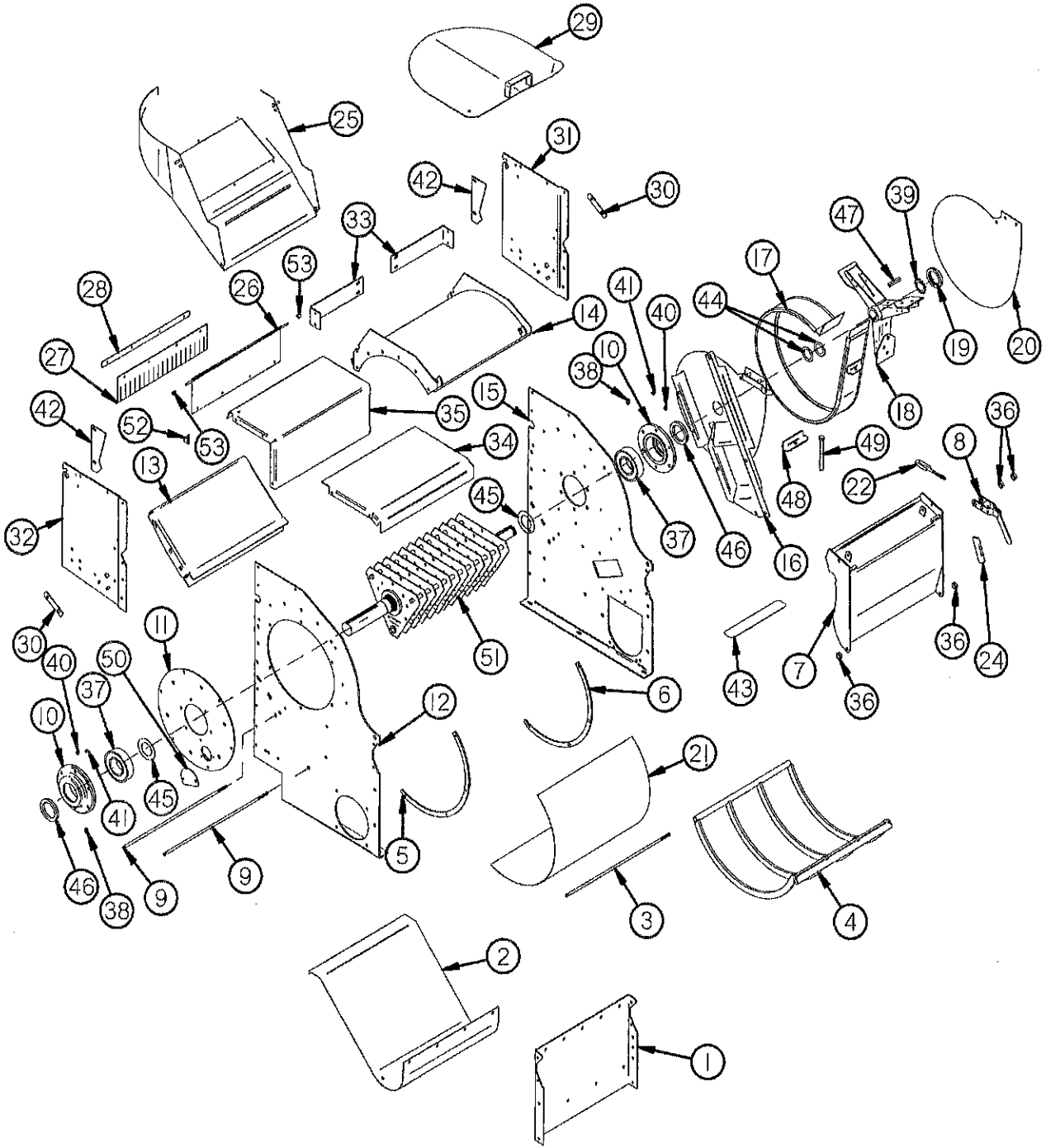
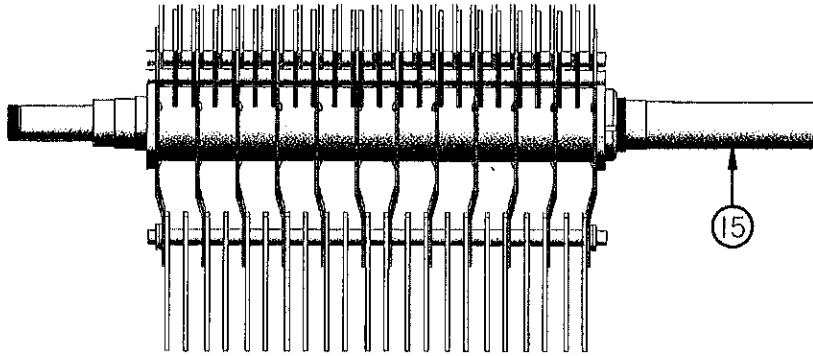


Figure 5 Mill

| ITEM # | PART # | DESC. | ITEM # | PART # | DESC. |
|--------|--------|----------------------------------|--------|--------|-----------------------------------|
| 1 | GM133 | Grinder Side Panel | 37 | GM421 | Bearing (J211WDN) |
| 2 | GM134 | Mill Bottom Panel | 38 | GM419 | 1/8" Grease Line Adapter (244054) |
| 3 | GM135 | Mill Long Bolt 1/2" x 22.500" | 39 | GM431 | Locking Washer (WH-08) |
| 4 | GM136 | Screen Support | 40 | GM432 | 3/8"-16 Set Screw w/Point |
| 5 | GM137 | Screen Guide Front | 41 | S355 | 3/8"-16 Jam Nut |
| 6 | GM138 | Screen Guide Back | 42 | GM433 | Chute Stop |
| 7 | GM139 | Grinder Door | 43 | GM435 | Safety Tread |
| 8 | GM140 | Door Latch | 44 | GM448 | Fan Spacer |
| 9 | GM141 | Rod 3/8" x 22.375" | 45 | GM449 | Bearing Spacer |
| 10 | GM142 | Bearing Housing | 46 | GM450 | Seal (2608) |
| 11 | GM143 | Cylinder Cover | 47 | GM462 | 3/8" x 2-1/2" Key |
| 12 | GM144 | Mill Front Panel | 48 | GM316 | Blower Band Angle |
| 13 | GM145 | Throat Plate | 49 | GM323 | 3/8" x 8-1/2" GR 5 Bolt |
| 14 | GM146 | Grinder Top | 50 | GM457 | Service Port Cover |
| 15 | GM147 | Mill Back Panel | 51 | GM451 | Complete Mill Cylinder |
| 16 | GM148 | Front Blower Panel | 52 | D58 | Angle |
| 17 | GM149 | Blower Band | 53 | GM525 | Chute Flap Spacer |
| 18 | GM150 | Blower Fan | | | |
| 19 | GM151 | Nut (N-08) | | | |
| 20 | GM152 | Blower Back Panel | | | |
| 21 | GM154 | Hammer Mill Screen 1/8" | | | |
| * | GM155 | Hammer Mill Screen 3/16" | | | |
| * | GM156 | Hammer Mill Screen 1/4" | | | |
| * | GM157 | Hammer Mill Screen 5/16" | | | |
| * | GM158 | Hammer Mill Screen 3/8" | | | |
| * | GM159 | Hammer Mill Screen 1/2" | | | |
| * | GM160 | Hammer Mill Screen 5/8" | | | |
| * | GM161 | Hammer Mill Screen 3/4" | | | |
| * | GM162 | Hammer Mill Screen 1" | | | |
| * | GM163 | Hammer Mill Screen 1-1/4" | | | |
| * | GM164 | Hammer Mill Screen 1-1/2" | | | |
| * | GM165 | Hammer Mill Screen 2" | | | |
| 22 | GM166 | Door Hook | | | |
| 24 | GM370 | Handle Grip | | | |
| 25 | GM351 | Infeed Chute For Infeed Conveyor | | | |
| * | GM352 | Chute Magnet | | | |
| 26 | GM353 | Infeed Flap | | | |
| 27 | GM354 | Infeed Flap Rubber | | | |
| 28 | GM355 | Infeed Flap Rubber Strap | | | |
| 29 | GM358 | Infeed Chute Cover for Item # 25 | | | |
| 30 | GM362 | Hopper Adjustment | | | |
| 31 | GM363 | Grinder Throat Left | | | |
| 32 | GM364 | Grinder Throat Right | | | |
| 33 | GM365 | Chute Brace | | | |
| 34 | GM366 | Chute Mid Shield | | | |
| 35 | GM367 | Chute Top Shield | | | |
| 36 | GM180 | Pivot Spacer | | | |

* Means Not Shown

Figure 6 Mill Cylinder



HAMMER REPLACEMENT DETAIL

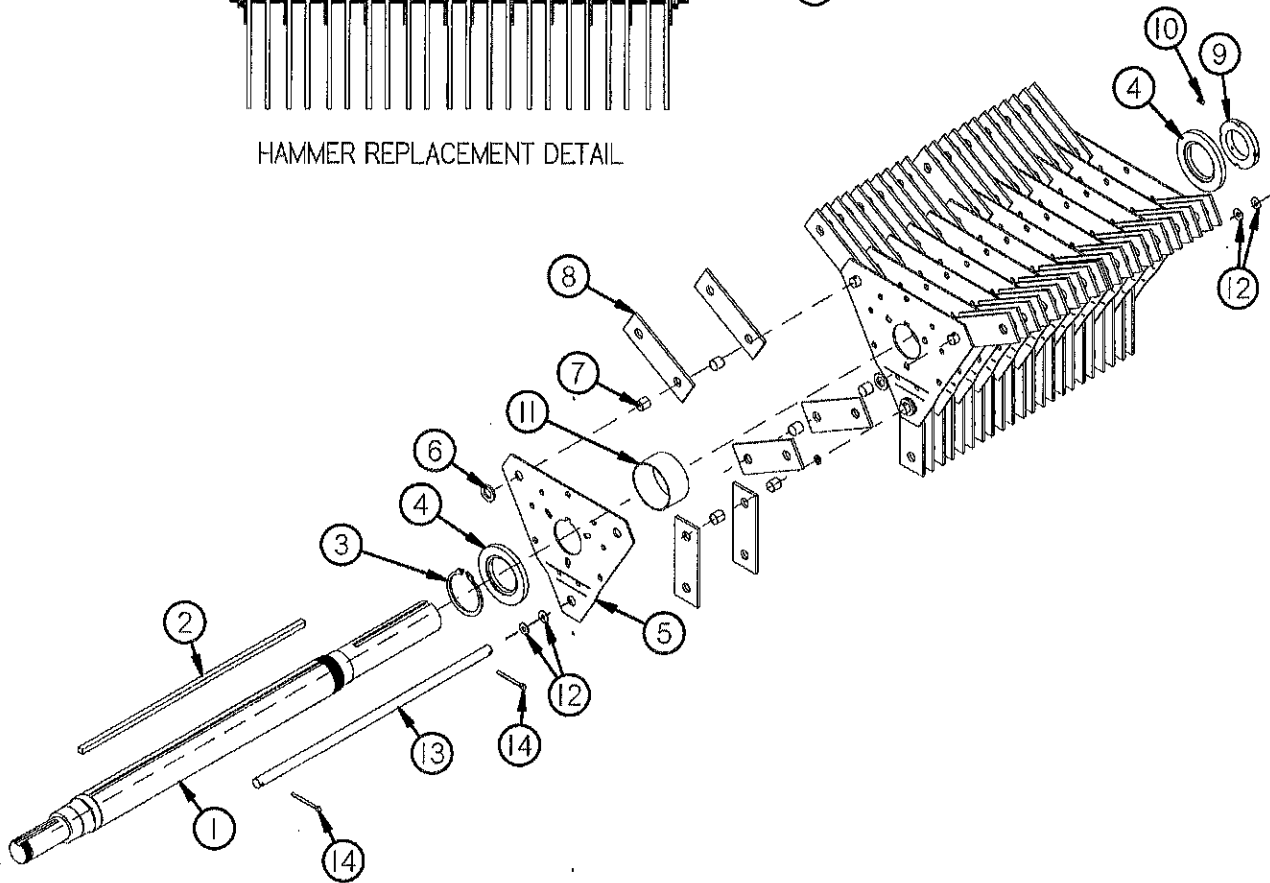


Figure 6 Mill Cylinder

| ITEM # | PART # | DESC. |
|--------|--------|-----------------------------|
| 1 | GM168 | Mill Shaft |
| 2 | GM169 | Cylinder Key 3/8" X 19-3/8" |
| 3 | GM465 | Retaining Ring (EN237) |
| 4 | GM171 | Retainer Plate |
| 5 | GM172 | Cylinder Plate (12 Pcs.) |
| 6 | GM173 | Spacer |
| 7 | GM174 | Hammer Spacer |
| 8 | GM175 | Hammer (66 Pcs.) |
| 9 | GM176 | Cylinder Shaft Nut (N-12) |
| 10 | GM277 | Set Screw 1/4"-20 X .375 |
| 11 | GM177 | Spacer Plate |
| 12 | GM430 | Balance Washer (4 Pcs.) |
| 13 | GM44 | Hammer Shaft |
| 14 | HSB53 | Cotter Pin (3/16" x 1-1/4") |
| 15 | GM451 | Complete Mill Cylinder |

Figure 7
Conveyor Drive

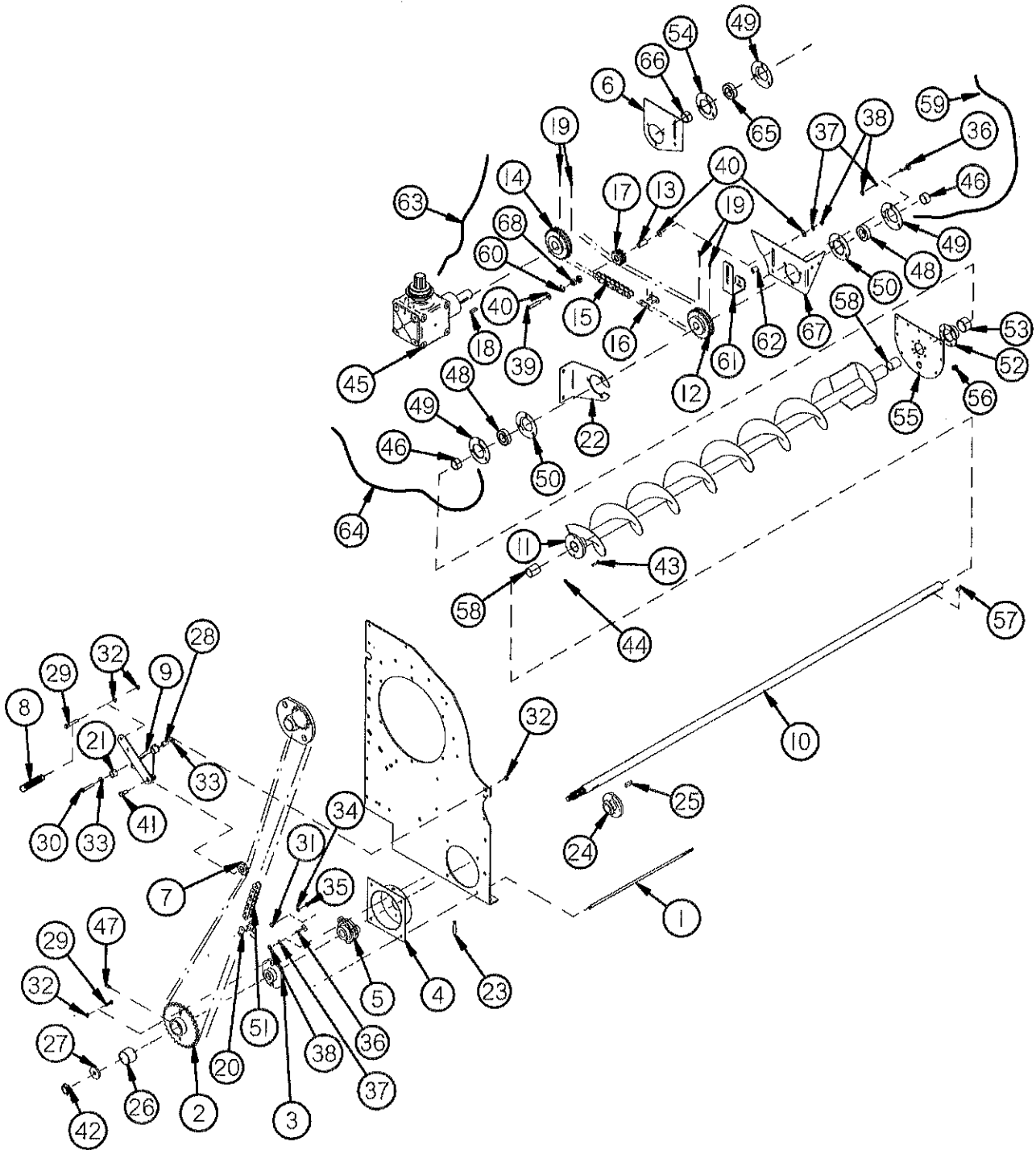


Figure 7 Conveyor Drive

| ITEM # | PART # | DESC. | ITEM # | PART # | DESC. |
|--------|--------|---|--------|--------|-------------------------------------|
| 1 | GM141 | Rod 3/8" X 22.375" | 49 | F143 | Flange (Greaseable) |
| 2 | GM247 | Sprocket 30T (540 RPM) | * | GM424 | 1/4"-28 Grease Line Adapter |
| * | GM248 | Sprocket 54T (1000 RPM) | 50 | F145 | Flange |
| 3 | GM249 | Shear Flange | 51 | GM361 | #60 Chain X 66 Pitches (540RPM) |
| 4 | GM479 | Bearing Bracket A | * | GM343 | #60 Chain X 80 Pitches (1000 RPM) |
| 5 | GM491 | Bearing (SBRFB 207 20-G) | 52 | GM393 | Auger Seal |
| 6 | GM480 | Gearbox Shaft Brace | 53 | S50 | Bushing (A-2001 x 1-1/8") |
| 7 | GM251 | Idler Sprocket (60A15) | 54 | GM494 | Relube Bearing Flange |
| * | GM246 | Bearing (203 RR2 USA Fafnir) | 55 | GM441 | Auger Transition Cap |
| 8 | GM252 | Idler Spring (077055) | 56 | GM202 | 1/2" Plug (5406-8P) |
| 9 | GM253 | Idler Bracket | 57 | GM511 | Key 5/16" x 1-3/4" Square |
| 10 | GM254 | Trans. Drive Shaft | 58 | RG132 | Bushing 1.265 IDx 1-1/2"x 2" S-1503 |
| 11 | GM255 | Intake Conveyor Auger | 59 | GM36 | Grease Line 30" |
| 12 | GM469 | Sprocket 23T (Double) | 60 | GM472 | Retaining Ring (N5000-102) |
| 13 | GM292 | Idler Spacer | 61 | GM474 | Tightener Support |
| 14 | GM470 | Sprocket 26T (Double) | 62 | GM475 | Tightener Support Spacer |
| 15 | GM471 | #50 Double Chain X 54 Pitch | 63 | GM507 | Grease Line 60" |
| 16 | D118 | #50 Double Connector Link | 64 | GM506 | Grease Line 51" |
| 17 | GM473 | Idler Sprocket 8 Tooth | 65 | F143 | Bearing (FH207-22) |
| 18 | GM492 | 5/16" x 1-1/4" Sq. Key w/ Round Ends | 66 | F146 | Lock Collar |
| 19 | S435 | 5/16" X 3/8" Set Screw | 67 | GM510 | Mount Plate |
| 20 | D39 | Connector Link #60 | 68 | WM125 | Brg. Sprocket (SKF 6000-2RSJEM) |
| 21 | GM296 | Idler Pivot Bushing (3/4" OD x .635" ID x 3/4") | | | |
| 22 | GM481 | Gearbox Bearing Plate | | | |
| 23 | 45N57 | 1/4" NPT x 2-5/8" Greasezerk (58754) | | | |
| 24 | GM485 | Shaft Shear Hub | | | |
| 25 | WM121 | 5/16" x 1" Square Key | | | |
| 26 | GM297 | Bushing (2.015 ID X 2-1/4 OD X 1.312) | | | |
| 27 | GM298 | Transfer Auger Sprocket Washer | | | |
| 28 | GM299 | Tensioner Pivot | | | |
| 29 | RGB38 | 5/16" X 1" GR. 5 Bolt | | | |
| 30 | 12V126 | 5/16" X 2" Bolt | | | |
| 31 | 12V66 | 5/16" X 3/4" Bolt GR 5 | | | |
| 32 | D81 | 5/16" Lock Nut | | | |
| 33 | GM300 | 5/16" Flat Washer | | | |
| 34 | RGB39 | 5/16" Lock Washer | | | |
| 35 | T116 | 5/16" Nut | | | |
| 36 | BFR247 | 3/8" X 1" Carriage Bolt | | | |
| 37 | B68 | 3/8" Lock Washer | | | |
| 38 | K60 | 3/8" Nut | | | |
| 39 | CHM7 | 3/8" X 3-1/2" Bolt | | | |
| 40 | X67 | 3/8" Flat Washer | | | |
| 41 | 50N183 | 5/8" X 1-1/4" Bolt | | | |
| 42 | BFR104 | 3/4" Nylock Nut (Thin) | | | |
| 43 | GM493 | 1/4" X 1-1/4" GR 5 Bolt | | | |
| 44 | LW140 | 1/4" Nut | | | |
| 45 | GM489 | Gearbox (A11) | | | |
| 46 | WM27 | Lock Collar | | | |
| 47 | G89 | Grease Zerk | | | |
| 48 | WM29 | Bearing (SA207-20G) | | | |

* Means Not Shown

Figure 8 Unloading Auger

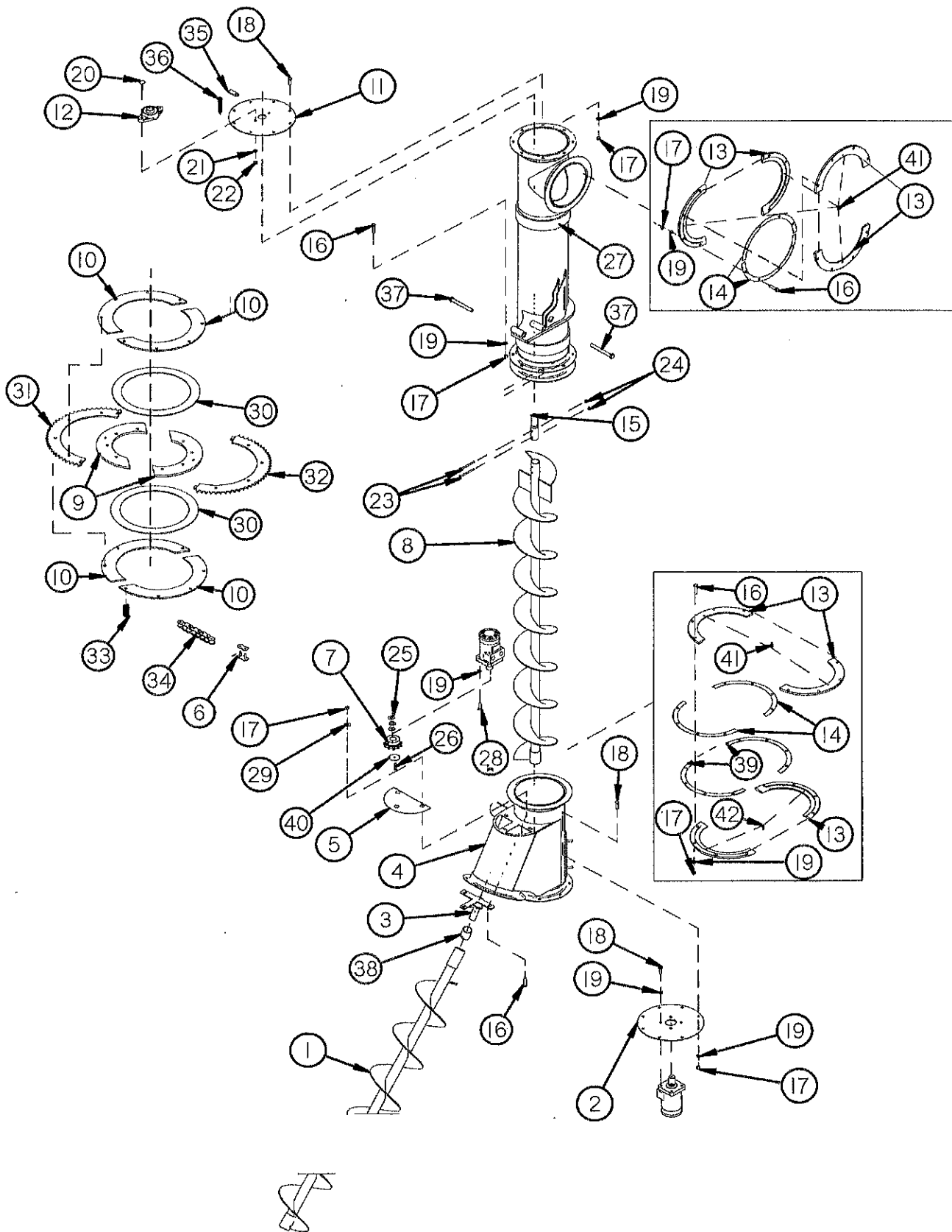


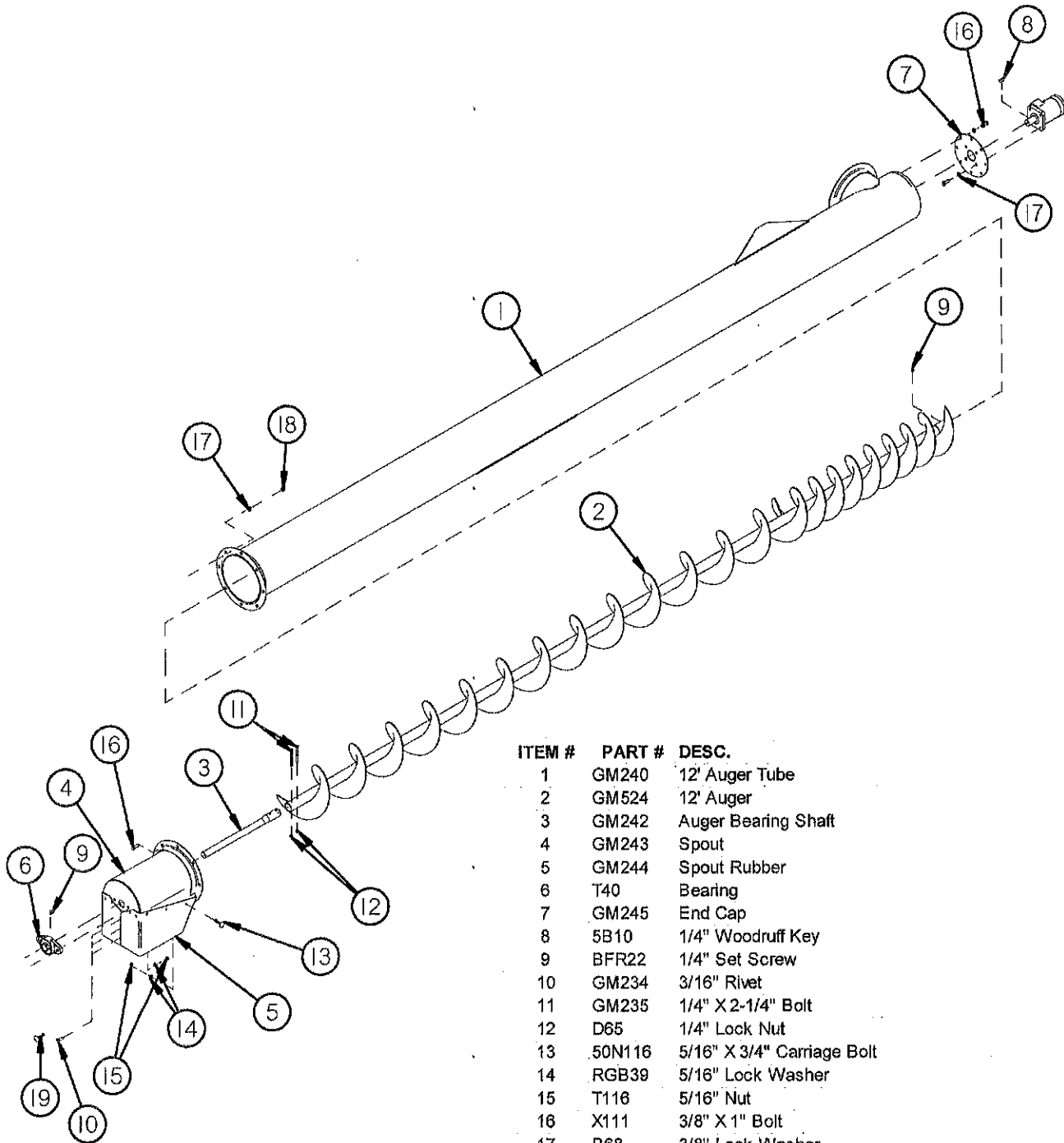
Figure 8 Unloading Auger

| ITEM # | PART # | DESC. |
|--------|---------|-----------------------------------|
| 1 | GM220 | Tank Unloading Auger |
| 2 | GM221 | Auger Drive Cap |
| 3 | GM222 | Auger Shaft |
| 4 | GM223 | Auger Tube |
| * | GM488** | Auger Cleanout Cover |
| * | GM357** | Felt Gasket |
| 5 | GM224 | Overflow Cover |
| 6 | D39 | #60 Connector Link |
| 7 | GM226 | Sprocket 60-B11 |
| 8 | GM523 | Vertical Auger |
| 9 | GM228 | Clutch Plate |
| 10 | GM229 | Clutch Face |
| 11 | GM230 | End Cap |
| 12 | T40 | Bearing |
| 13 | GM231 | Collar |
| 14 | GM232 | Collar Shim |
| 15 | GM233 | Vertical Auger Shaft |
| 16 | LW134 | 3/8" X 1-1/2" GR.5 Bolt |
| 17 | K60 | 3/8" Nut |
| 18 | 80N57 | 3/8" X 3/4" Bolt |
| 19 | B68 | 3/8" Lock Washer |
| 20 | GM179 | 5/16" X 1" Carriage Bolt |
| 21 | RGB39 | 5/16" Lock Washer |
| 22 | T116 | 5/16" Nut |
| 23 | GM235 | 1/4" X 2-1/4" Bolt |
| 24 | D65 | 1/4" Lock Nut |
| 25 | T16 | 1/4" Flat Washer |
| 26 | 23N223 | 1/4" X 1-1/4" Bolt |
| 27 | GM236 | Pivot Tube |
| 28 | X111 | 3/8" X 1" Bolt |
| 29 | X67 | 3/8" Flat Washer |
| 30 | GM237 | Clutch |
| 31 | GM238 | Turn Sprocket B |
| 32 | GM239 | Turn Sprocket A |
| 33 | WM210 | Clutch Spring (Red) |
| 34 | GM409 | #60 Chain x 81 Pitches |
| 35 | GM436 | Hose Holder |
| 36 | 23N187 | Spring |
| 37 | 9S16 | 1/2" x 4-1/2" Bolt (Full Thread) |
| 38 | RG11 | Bushing (1.010" ID x 1-1/4" x 2") |
| 39 | GM459 | Collar Shim |
| 40 | GM461 | Pinion Stop |
| 41 | RG51 | 1/4"-28 90° Grease Zerk (1911) |
| 42 | G89 | 1/4"-28 Grease Zerk (1641) |

* Means Not Shown

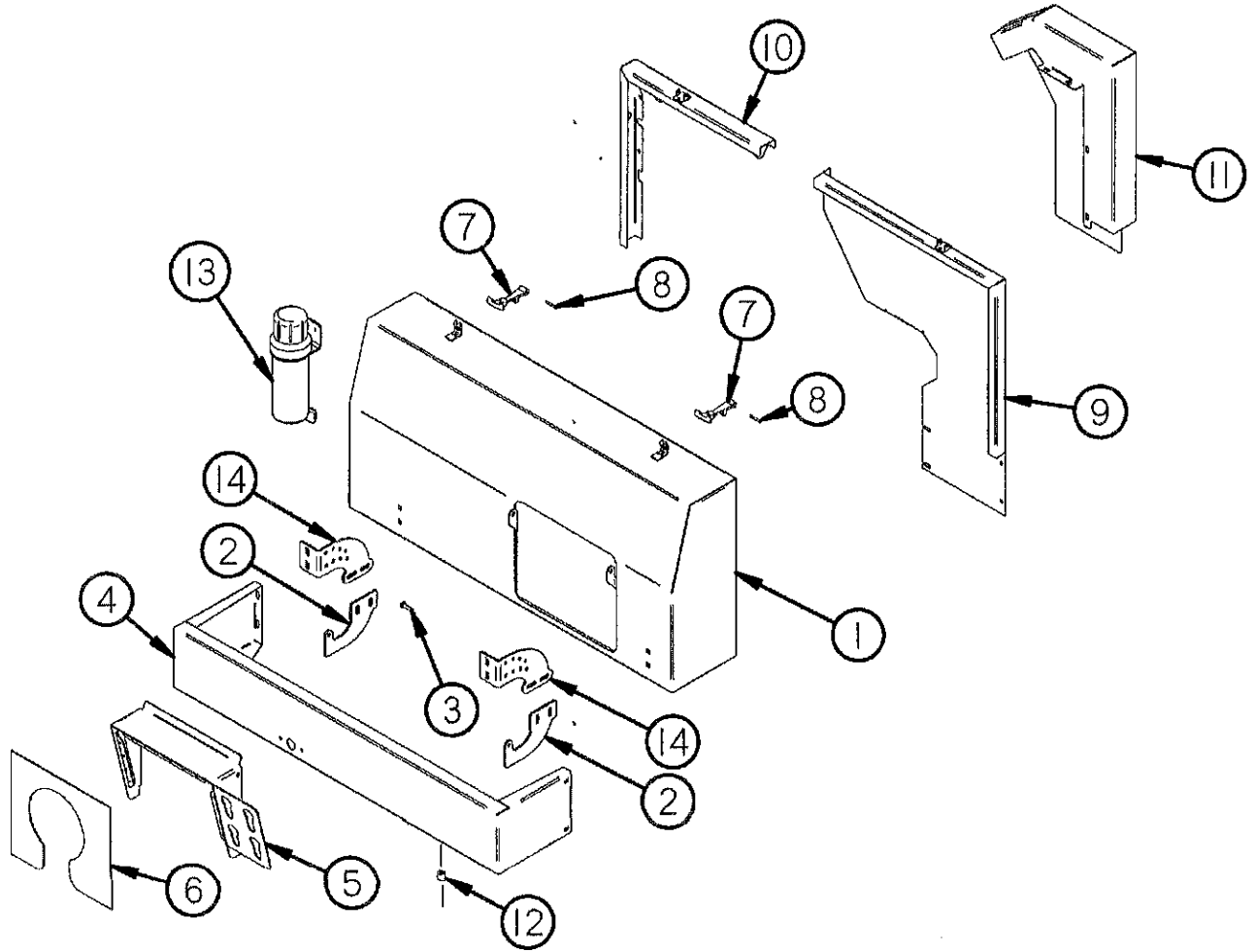
** Means Used on Serial #800111 and Higher

Figure 9 12' Unloading Auger



| ITEM # | PART # | DESC. |
|--------|--------|----------------------------|
| 1 | GM240 | 12' Auger Tube |
| 2 | GM524 | 12' Auger |
| 3 | GM242 | Auger Bearing Shaft |
| 4 | GM243 | Spout |
| 5 | GM244 | Spout Rubber |
| 6 | T40 | Bearing |
| 7 | GM245 | End Cap |
| 8 | 5B10 | 1/4" Woodruff Key |
| 9 | BFR22 | 1/4" Set Screw |
| 10 | GM234 | 3/16" Rivet |
| 11 | GM235 | 1/4" X 2-1/4" Bolt |
| 12 | D65 | 1/4" Lock Nut |
| 13 | 50N116 | 5/16" X 3/4" Carriage Bolt |
| 14 | RGB39 | 5/16" Lock Washer |
| 15 | T116 | 5/16" Nut |
| 16 | X111 | 3/8" X 1" Bolt |
| 17 | B68 | 3/8" Lock Washer |
| 18 | K60 | 3/8" Nut |
| 19 | GM179 | 5/16" X 1" Carriage Bolt |

**Figure 10
Shields**



| ITEM # | PART # | DESC. |
|--------|--------|---------------------------|
| 1 | GM321 | Front Shield |
| 2 | GM529 | Shield Front Hinge Bottom |
| 3 | RGB38 | 5/16" x 1" GR. 5 Bolt |
| * | D110 | 1/4" x 1" GR.5 Bolt |
| 4 | GM324 | Flywheel Shield Lower |
| 5 | GM325 | PTO Guard |
| 6 | GM326 | Poly PTO Guard |
| 7 | X192 | Rubber Latch |
| 8 | X195 | Latch Pin |
| 9 | GM517 | Flywheel Shield Back |
| 10 | GM328 | Top Seal |
| 11 | GM329 | Hydraulic Pump Shield |
| 12 | GM519 | Shield Spacer |
| 13 | S522 | Manual Holder |
| 14 | GM528 | Shield Front Hinge Top |

* Means Not Shown

Figure 11
Oiler

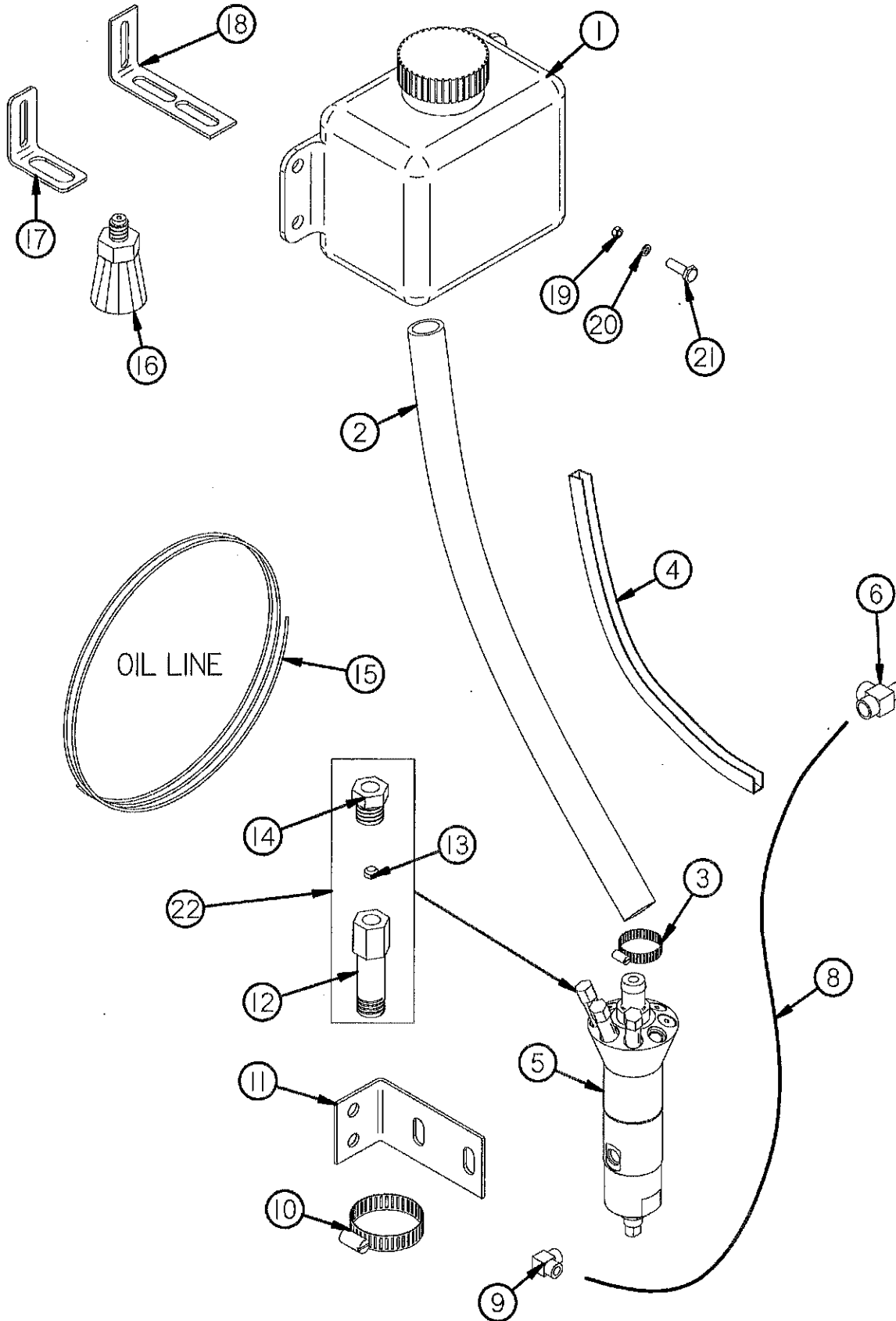


Figure 11 Oiler

| ITEM # | PART # | DESC. |
|--------|--------|--|
| 1 | HGV63 | Reservoir |
| 2 | HGV66 | Filler Hose |
| 3 | HGV75 | 1" Hose Clamp |
| 4 | HGV77 | Edging 12" |
| 5 | HGV82 | Pump (Complete) |
| 6 | 23N116 | 3/8" Street Tee (Chamfer on Male End) |
| 8 | GM501 | Hydraulic Hose (1/4" x 29-3/4") |
| 9 | HGV65 | O-Ring /Jic Elbow |
| 10 | HGV74 | 2" Hose Clamp |
| 11 | HGV68 | Pump Mount Bracket |
| 12 | HGV86 | Standoff |
| 13 | HGV87 | Ferrule |
| 14 | HGV85 | Sleeve Nut |
| 15 | GM504 | Oiler Tube (2 pcs. 5/16" OD x 48") Back |
| * | GM505 | Oiler Tube (1 pc. 5/16" OD x 156") Front |
| 16 | HGV67 | Brush |
| 17 | GM490 | Brush Bracket Short (Front) |
| 18 | HGV69 | Brush Bracket Long (Back) |
| 19 | LW140 | Nut (1/4"-20) |
| 20 | K84 | 1/4" Lock Washer |
| 21 | D110 | Bolt (1/4" x 1") |
| 22 | HGV84 | Manifold Assembly (Complete) |
| * | GM512 | Oiler Kit (Complete) |

* Means Not Shown

Figure 12
Auger Circuit

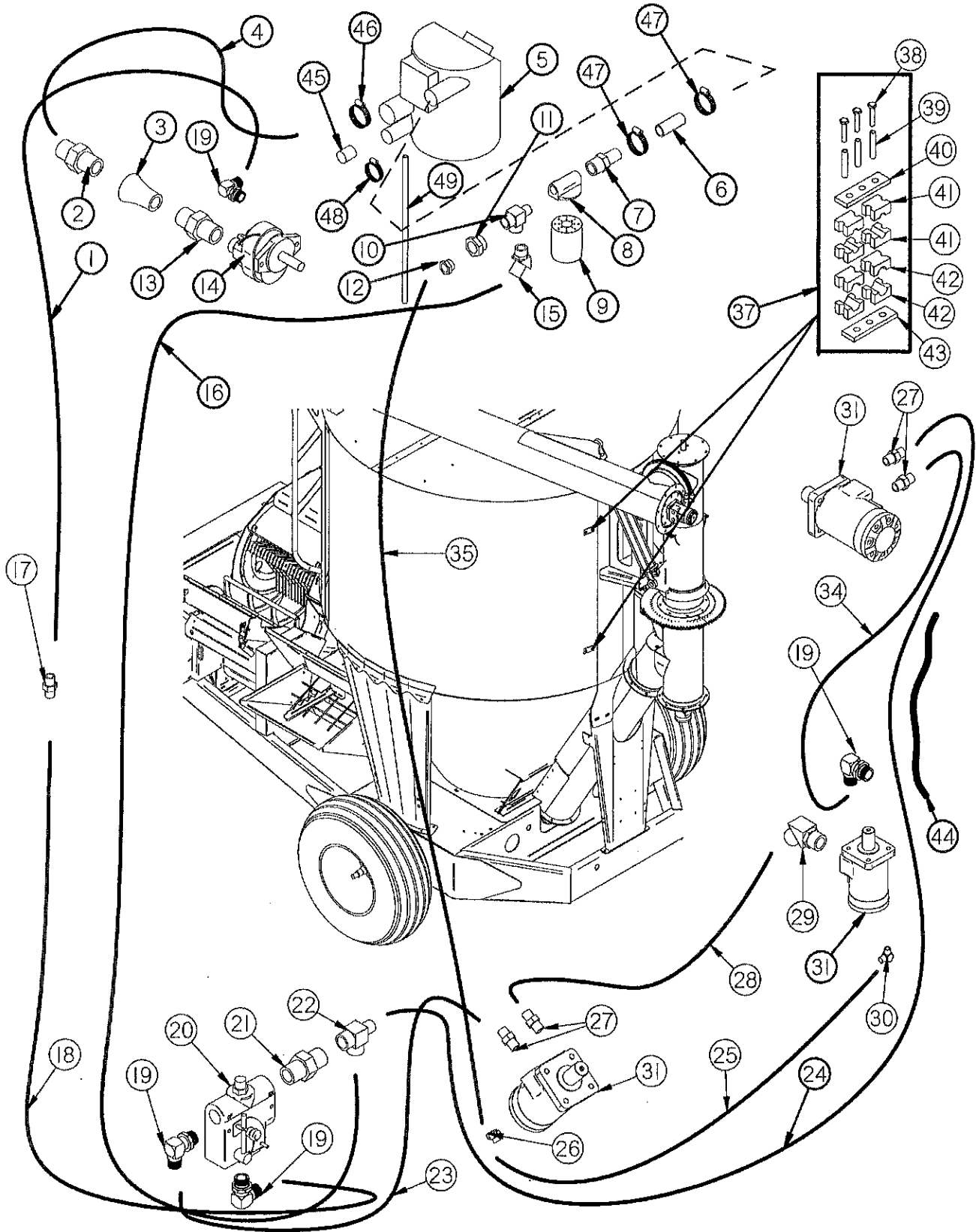
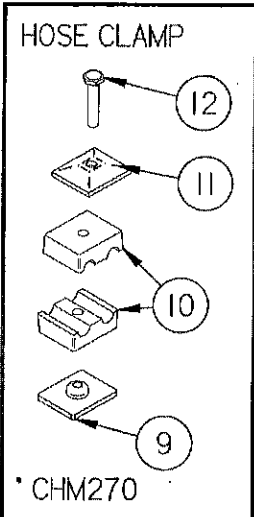
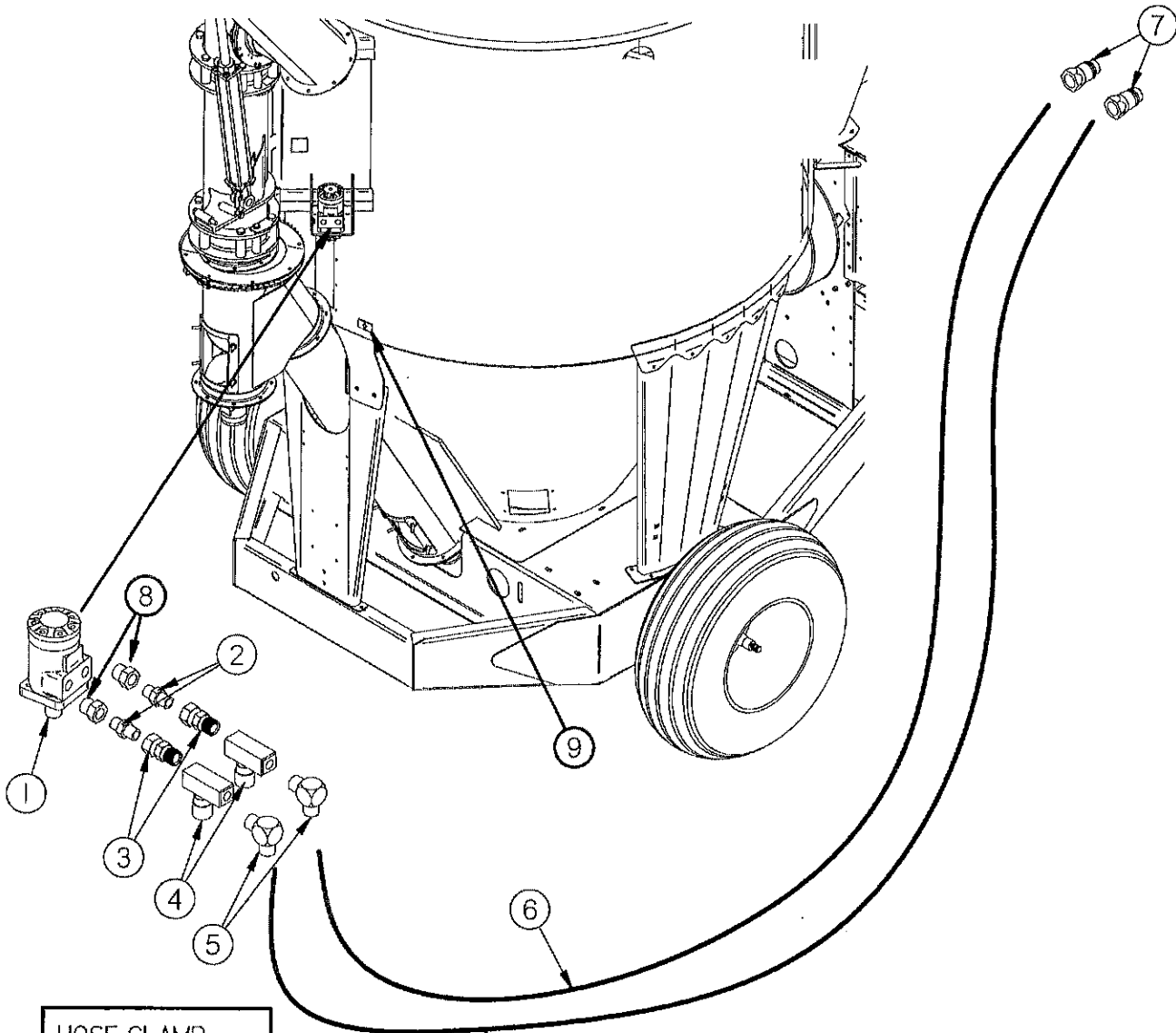


Figure 12 Auger Circuit

| ITEM # | PART # | DESC. |
|--------|--------|-----------------------------------|
| 1 | GM1 | 1/2" X 32" Hose |
| 2 | GM2 | Adapter (24FTX-S) |
| 3 | GM3 | Pipe Reducer (1-1/2" NPT TO 3/4") |
| 4 | GM4 | 1-1/2" X 64" Suction Hose |
| 5 | GM5 | Reservoir |
| 6 | GM6 | 1" X 3" Hose |
| 7 | GM7 | 3/4" to 1" Hose Barb |
| 8 | LW288 | Filter Head |
| 9 | LW289 | Filter Element |
| 10 | GM10 | 3/4" Street Tee (3/4 MRO) |
| 11 | GM11 | Reducer (3/4 X 1/4 PTR) |
| 12 | GM12 | Adapter (4-4 FTX) |
| 13 | GM13 | Adapter (12-3/4 F50F-S) |
| 14 | GM14 | Pump |
| 15 | GM15 | 45° Elbow (12VTX) |
| 16 | GM16 | 3/4" X 76" Hose |
| 17 | GM17 | Union (8 HTX) |
| 18 | GM18 | 1/2" X 75" Hose |
| 19 | GM19 | Elbow (8-10 C50X) |
| 20 | GM20 | Flow Control |
| 21 | GM21 | Adapter (12-10 F50X-S) |
| 22 | GM22 | Tee (12R6X) |
| 23 | GM23 | 1/2" X 30" Hose |
| 24 | GM24 | 1/2" X 160" Hose |
| 25 | GM25 | 1/4" X 80" Hose |
| 26 | GM26 | Tee (4R50X-S) |
| 27 | GM27 | Adapter (8-10 F50X) |
| 28 | GM28 | 1/2" X 79" Hose |
| 29 | GM29 | 45° Elbow (8-10 V50X) |
| 30 | GM30 | Elbow (4C50X-S) |
| 31 | GM464 | Motor (101-2180-009) |
| 34 | GM34 | 1/2" X 116" Hose |
| 35 | GM35 | 1/4" X 51" Hose |
| 37 | GM8 | Hose Clamp 3/8" X 1/2" (Complete) |
| 38 | GM62 | Bolt |
| 39 | GM63 | Tube |
| 40 | GM64 | Top Plate |
| 41 | GM65 | 3/8" Insert |
| 42 | GM66 | 1/2" Insert |
| 43 | GM67 | Weld Plate |
| 44 | GM32 | Spiral Wrap (HG125) 1-1/4" x 2' |
| 45 | GM37 | Port Cap (TFH-38) |
| 46 | GM38 | 1-1/2" Hose Clamp |
| 47 | DWM123 | 1" Hose Clamp |
| 48 | GM453 | 15/16" Spring Clamp |
| 49 | GM509 | Breather Tube |

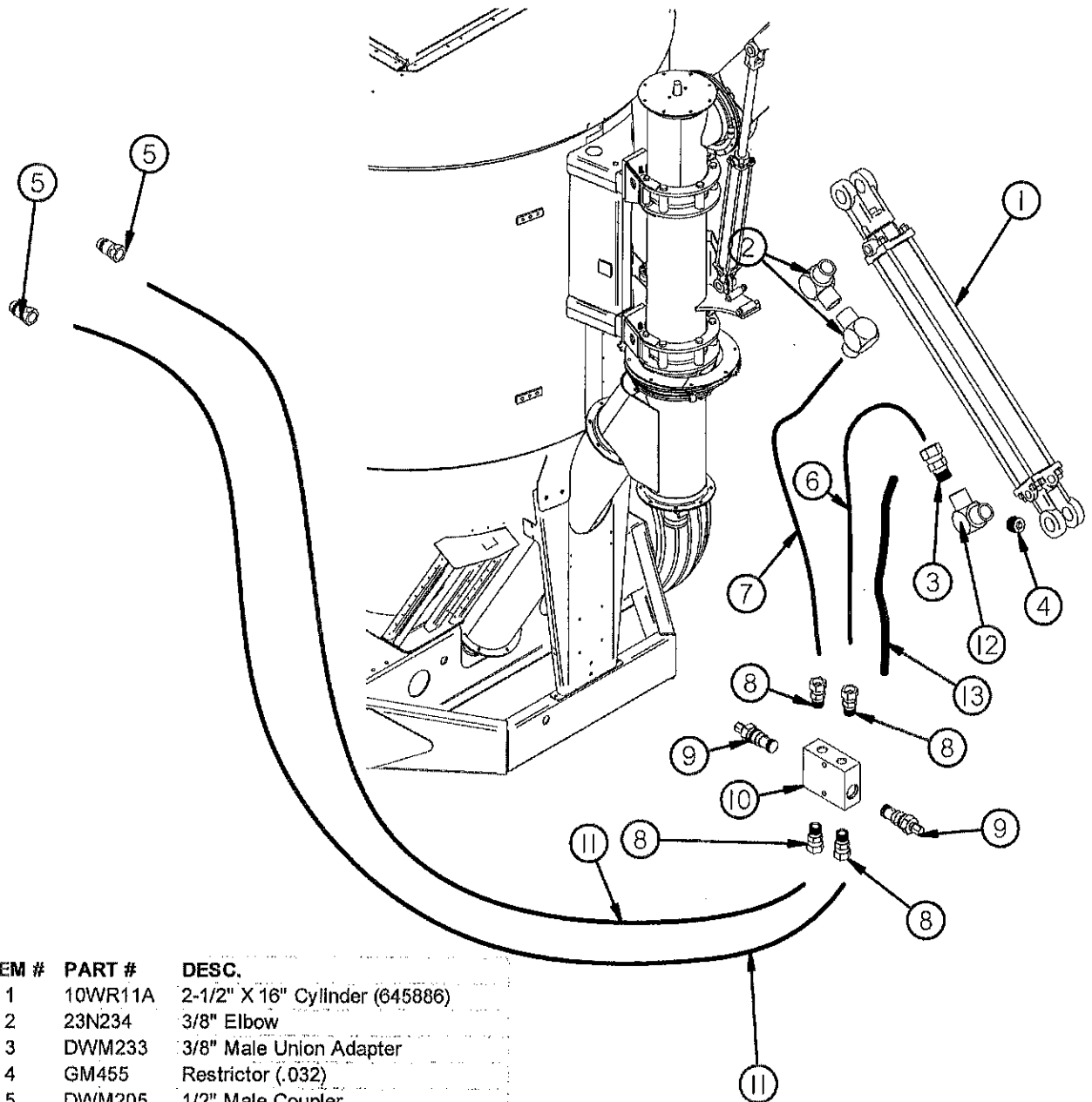
Figure 13 Auger Swing Circuit



| ITEM # | PART # | DESC. |
|--------|---------|-----------------------------------|
| 1 | GM412 | Motor (Parker) TB0390FP100AAAB |
| 2 | 16SV351 | 3/8" Nipple Nut (5404-6-6) |
| 3 | DWM233 | 3/8" Male Union Adapter |
| 4 | CHM265 | Needle Valve (F600S) |
| 5 | GM42 | Elbow (6-6 CTX) |
| 6 | GM43 | 3/8" X 264" Hose |
| 7 | DWM205 | 1/2" Male Coupler |
| 8 | JB82 | Bushing 1/2" to 3/8" (5406-8-6) |
| 9 | CHM279 | Weld Plate |
| 10 | CHM278 | Clamp Halves 3/8" Hose |
| 11 | CHM277 | Cover Plate |
| 12 | CHM276 | Hex Bolt |
| * | CHM270 | Complete 3/8" Hose Clamp (Double) |

* Means Not Shown

Figure 14 Auger Lift Circuit



| ITEM # | PART # | DESC. |
|--------|---------|---------------------------------|
| 1 | 10WR11A | 2-1/2" X 16" Cylinder (645886) |
| 2 | 23N234 | 3/8" Elbow |
| 3 | DWM233 | 3/8" Male Union Adapter |
| 4 | GM455 | Restrictor (.032) |
| 5 | DWM205 | 1/2" Male Coupler |
| 6 | GM45 | 3/8" X 130" Hose |
| 7 | GM46 | 3/8" X 125" Hose |
| 8 | GM47 | Adapter (0507-6-6) |
| 9 | GM48 | Relief Cartridge |
| 10 | GM49 | Relief Valve Body |
| * | GM50 | Relief Valve Complete |
| 11 | GM51 | 3/8" X 240" Hose |
| 12 | GM446 | 3/8" Street Elbow w/ Restrictor |
| 13 | GM32 | Spiral Wrap (HG125) 1-1/4" x 2' |

Figure 15
Gearbox (All)

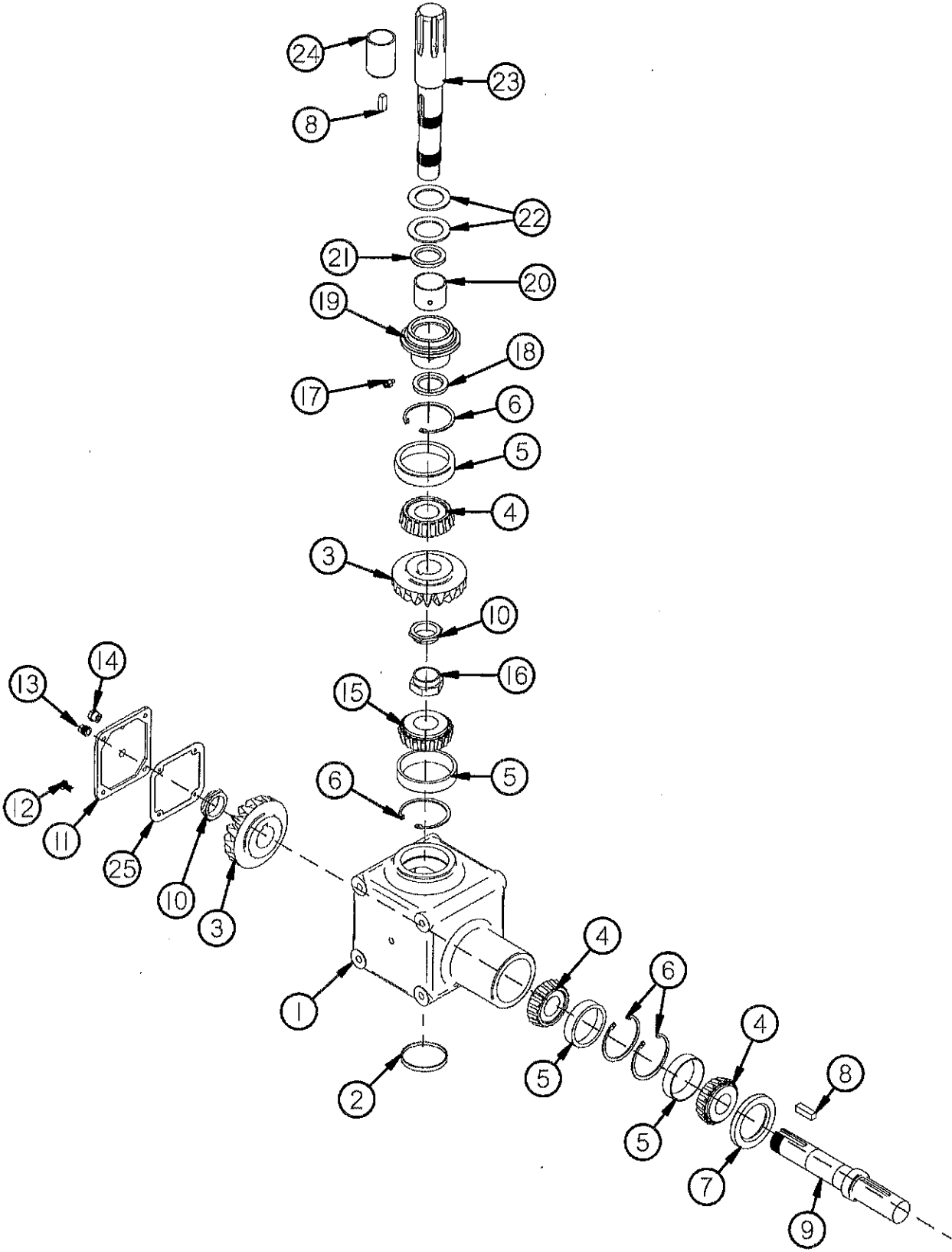
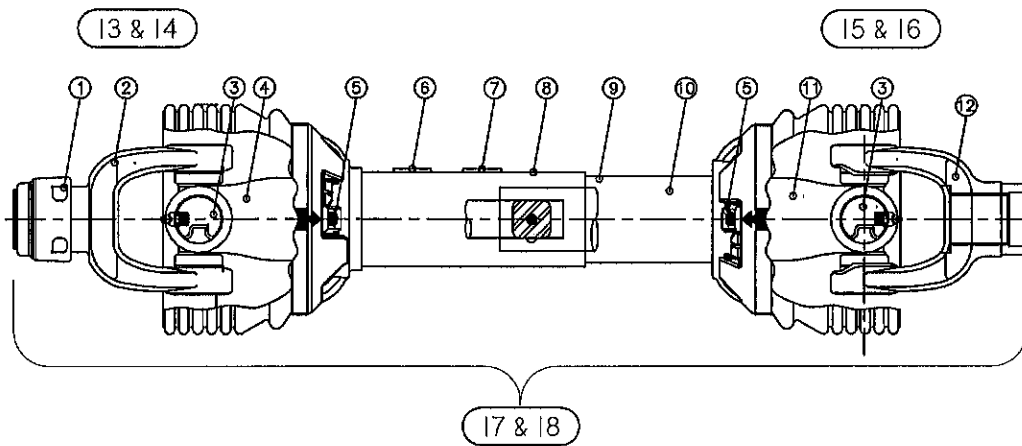


Figure 15 Gearbox (All)

| ITEM # | PART # | DESC. |
|--------|--------|--------------------------------------|
| 1 | G50 | Housing |
| 2 | G68 | Cap |
| 3 | G52 | Bevel Gear |
| 4 | G53 | Bearing Cone (14137A) |
| 5 | G54 | Bearing Race (14276) |
| 6 | G55 | Snap Ring |
| 7 | G64 | Seal (F465) |
| 8 | 23N139 | Key 3/8" x 1-3/8" (Hardened) |
| 9 | GM495 | Input Shaft |
| 10 | G58 | Stake Nut (1-3/8"-18) |
| 11 | GM484 | Cover |
| 12 | G56 | Capscrew |
| 13 | G65 | Plug 3/8" NPT |
| 14 | G67 | Vent 1/8" NPT |
| 15 | GM496 | Bearing Cone (14117A) |
| 16 | GM486 | Stake Nut Long (1-3/8"-18) |
| 17 | GM497 | Fitting (O-Ring 1/8"-27 NPT) |
| 18 | GM498 | Seal (19739) |
| 19 | GM482 | Gearbox Seal Extension |
| 20 | GM487 | Bushing (2-1/4" OD x 2" ID x 1.765) |
| 21 | GM499 | Seal (19786) |
| 22 | RG24 | Thrust Washer (2" ID x 3" OD x 1/8") |
| 23 | GM500 | Output Shaft |
| 24 | GM483 | Gearbox Output Bushing |
| 25 | G66 | Gasket |
| * | GM489 | Complete Machine Gearbox |

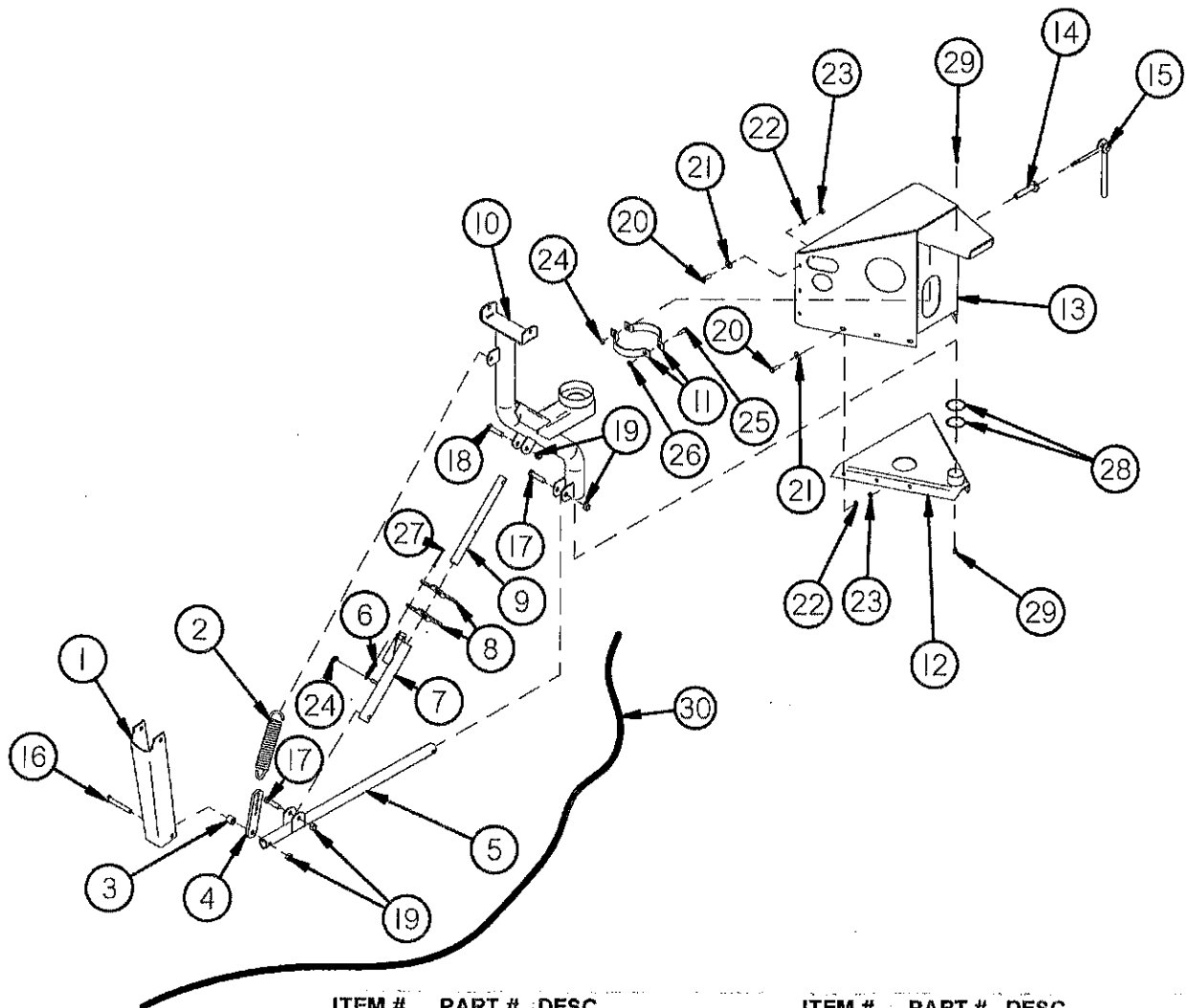
* Means Not Shown

Figure 16 PTO



| ITEM # | 540 RPM | 1000 RPM 1-3/8" | DESC. |
|--------|---------|-----------------|--|
| 1 | 16SV274 | " | Safety Slide Lock Repair Kit |
| 2 | GM374 | GM375 | Safety Slide Lock Yoke Assembly |
| 3 | GM376 | " | 55R Cross & Bearing Kit |
| 4 | GM377 | " | Yoke & Shaft |
| 5 | GM378 | " | Nylon Repair Kit (Not Shown) |
| 6 | 16SV283 | " | Safety Sign |
| 7 | GM379 | GM380 | Safety Sign |
| 8 | GM381 | GM476 | Outer Guard |
| 9 | GM382 | " | Inner Guard |
| 10 | 16SV286 | " | Safety Sign (Not Shown) |
| 11 | GM383 | " | Yoke, Tube & Slip Sleeve |
| 12 | GM384 | " | Yoke |
| 13 | GM385 | GM477 | Joint & Shaft Half Assembly w/Guard |
| 14 | GM386 | GM478 | Joint & Shaft Half Assembly |
| 15 | GM387 | " | Joint & Tube Half Assembly w/Guard |
| 16 | GM388 | " | Joint & Tube Half Assembly |
| 17 | GM389 | - | Complete PTO 540 RPM (262-23944) |
| 18 | - | GM390 | Complete PTO 1000 RPM 1-3/8" (262-23956) |

Figure 17 Infeed Conveyor Pivot



| ITEM # | PART # | DESC. | ITEM # | PART # | DESC. |
|--------|--------|--------------------|--------|--------|-----------------------|
| 1 | GM203 | Support | 16 | LW131 | 1/2" X 3-1/2" Bolt |
| 2 | GM204 | Spring (40174) | 17 | BFR119 | 1/2" X 2-1/4" Bolt |
| 3 | GM205 | Spacer | 18 | F52 | 1/2" X 2" Bolt |
| 4 | GM206 | Spring Adjustment | 19 | R11 | 1/2" Lock Nut |
| 5 | GM207 | Pivot Linkage | 20 | X111 | 3/8" X 1" Bolt |
| 6 | GM208 | Spring (17H387) | 21 | X67 | 3/8" Flat Washer |
| 7 | GM209 | Locking Tube | 22 | B68 | 3/8" Lock Washer |
| 8 | GM210 | Locking Lever | 23 | K60 | 3/8" Nut |
| 9 | GM211 | Locking Shaft | 24 | K93 | 3/8" Lock Nut |
| 10 | GM212 | Pivot Main Support | 25 | GM218 | 5/16" X 1-1/4" Bolt |
| 11 | GM213 | Brake Band | 26 | D81 | 5/16" Lock Nut |
| 12 | GM214 | Bottom Support | 27 | HSB55 | 3/16" X 1" Cotter Pin |
| 13 | GM215 | Top Support | 28 | GM219 | Pivot Spacer |
| 14 | GM216 | Lever Guide | 29 | RG51 | Grease Fitting 90° |
| 15 | GM217 | Brake Lever | 30 | GM434 | Trip Rope |

Figure 18
Infeed Conveyor

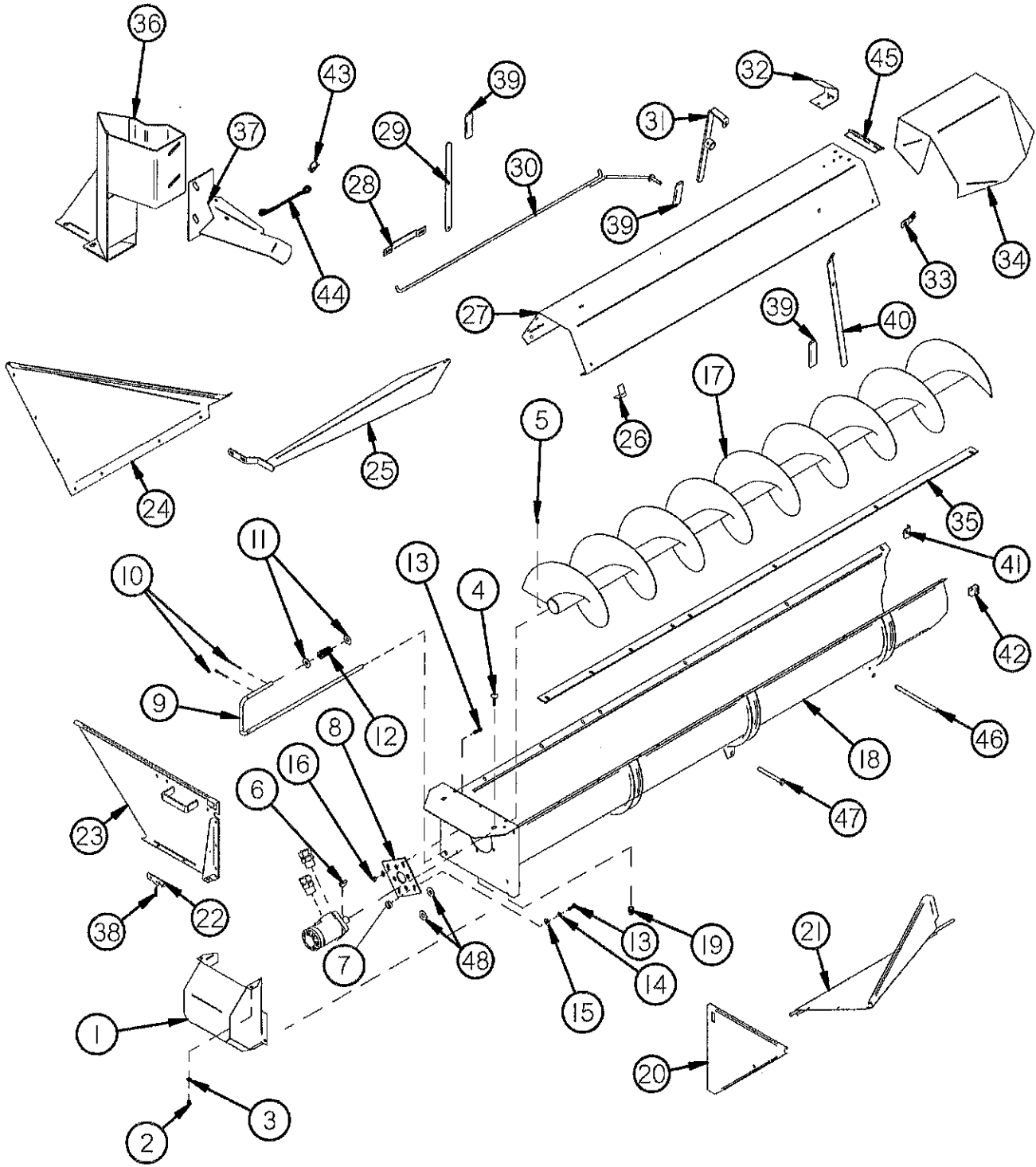
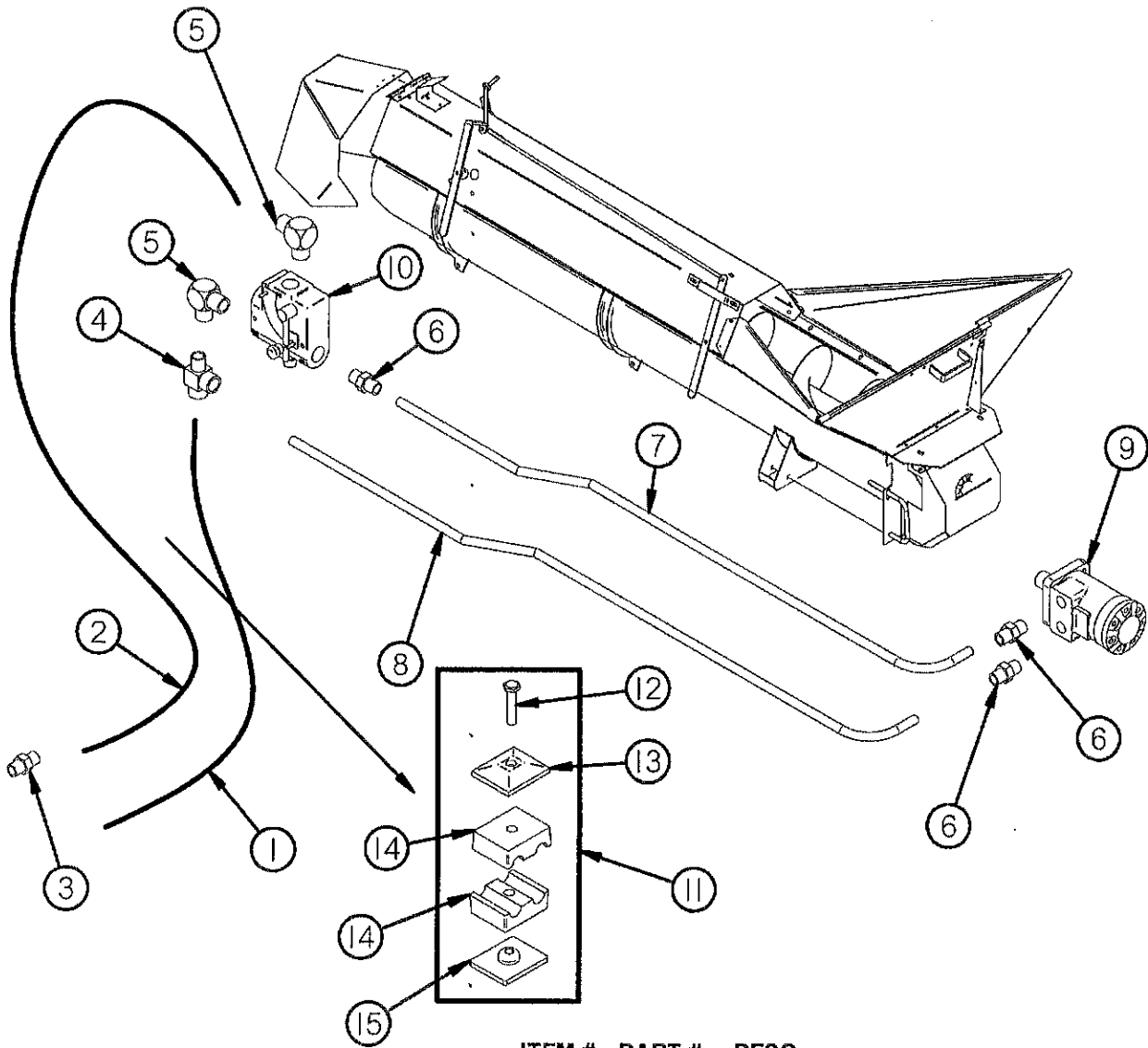


Figure 18 Infeed Conveyor

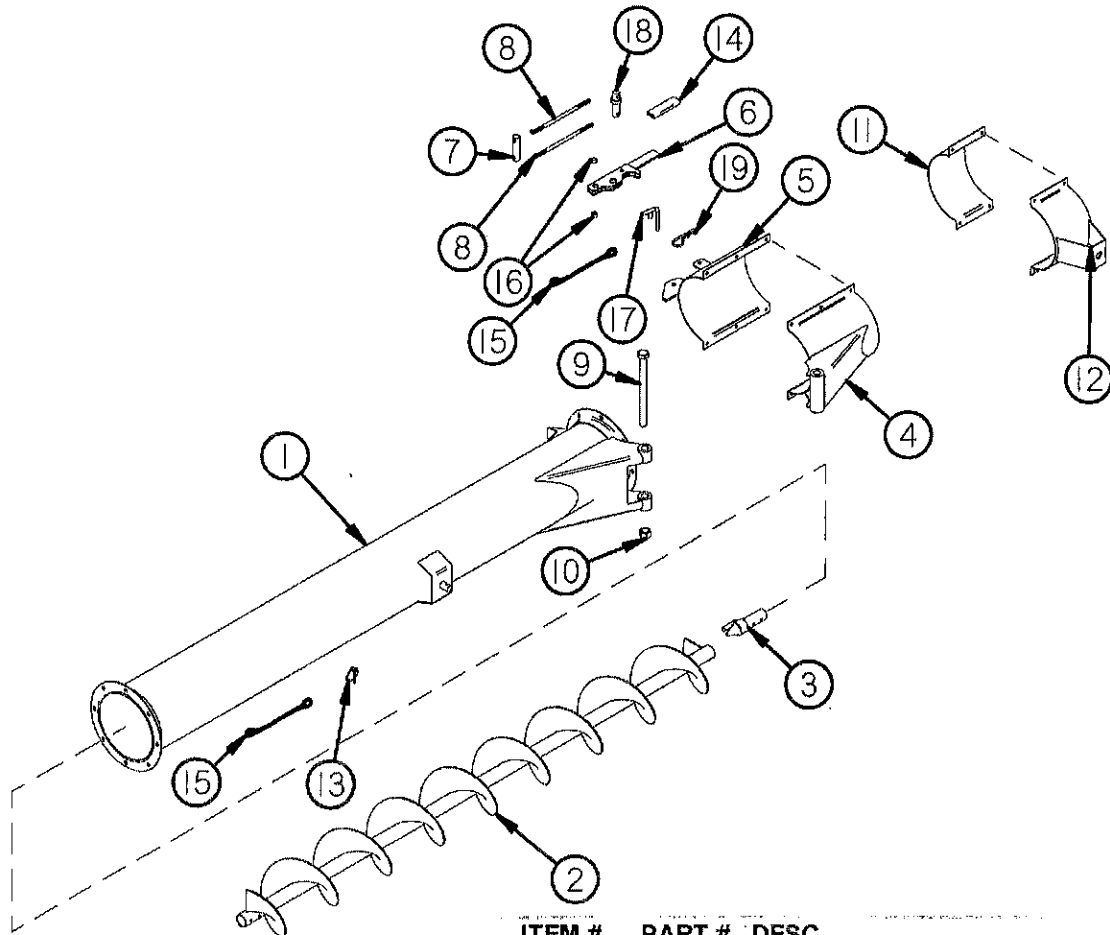
| ITEM # | PART # | DESC. |
|--------|--------|--------------------------|
| 1 | GM178 | Shield |
| 2 | T116 | 5/16" Nut |
| 3 | RGB39 | 5/16" Lock Washer |
| 4 | GM179 | 5/16" X 1" Carriage Bolt |
| 5 | BFR22 | 1/4"-20 x 1/2" Set Screw |
| 6 | 5B10 | 1/4" Key |
| 7 | GM180 | Spacer |
| 8 | GM181 | Motor Mount |
| 9 | GM182 | Handle Latch |
| 10 | X43 | 1/8" X 1" Cotter Pin |
| 11 | K68 | 1/2" Flat Washer |
| 12 | 17G128 | Spring |
| 13 | G110 | 3/8" X 3/4" Bolt |
| 14 | B68 | 3/8" Lock Washer |
| 15 | X67 | 3/8" Flat Washer |
| 16 | K60 | 3/8" Nut |
| 17 | GM184 | Auger |
| 18 | GM185 | Trough |
| 19 | GM202 | 1/2" Plug (5406-8P) |
| 20 | GM186 | Trough End Right |
| 21 | GM187 | Side Trough |
| 22 | GM188 | Trough Latch |
| 23 | GM189 | Trough End |
| 24 | GM190 | Trough Side Left |
| 25 | GM191 | Auger Guard |
| 26 | GM192 | Support Pivot |
| 27 | GM193 | Conveyor Cover |
| 28 | GM194 | Handle Guide |
| 29 | GM195 | Handle |
| 30 | GM196 | Flow Control Rod |
| 31 | GM197 | Flow Control Handle |
| 32 | GM198 | Trough Extension Stop |
| 33 | GM199 | Cover Holder |
| 34 | GM200 | Trough Extension |
| 35 | GM201 | Scraper |
| 36 | GM54 | Transport Post |
| 37 | GM75 | Transport Support |
| 38 | GM208 | Latch Spring (17H387) |
| 39 | GM370 | Handle Grip |
| 40 | GM371 | Control Handle |
| 41 | GM372 | Cover Stop Right |
| 42 | GM373 | Cover Stop Left |
| 43 | PB190 | Lynch Pin |
| 44 | S122 | Lanyard |
| 45 | GM126 | Hinge |
| 46 | GM458 | Pivot Pin |
| 47 | BFR224 | 1/2" x 4-1/2" GR5 Bolt |
| 48 | S304 | Washer |

Figure 19 Infeed Auger Circuit



| ITEM # | PART # | DESC. |
|--------|--------|---------------------------------|
| 1 | GM52 | 1/2" X 81-1/4" Hose |
| 2 | GM53 | 1/2" X 97-1/2" Hose |
| 3 | GM17 | Adapter (8 HTX) |
| 4 | GM55 | Tee (10 R6X) |
| 5 | GM56 | Elbow (10 C50X) |
| 6 | GM57 | Adapter (10 F50X) |
| 7 | GM58 | Pressure Tube |
| 8 | GM59 | Return Tube |
| 9 | GM61 | Motor (101-1013-009) |
| 10 | GM20 | Flow Control |
| 11 | GM9 | Hose Clamp 1/2" Twin (Complete) |
| 12 | GM68 | Bolt |
| 13 | GM69 | Top Plate |
| 14 | GM70 | 1/2" Insert |
| 15 | GM71 | Weld Plate |

Figure 20
3' & 6' Auger Extension



| ITEM # | PART # | DESC. |
|--------|--------|----------------------|
| 1 | GM278 | 6' Extension |
| * | GM279 | 3' Extension |
| 2 | GM280 | 6' Auger |
| * | GM281 | 3' Auger |
| 3 | GM282 | Auger Connect Shaft |
| 4 | GM283 | Pivot Clamp |
| 5 | GM284 | Latch Clamp |
| 6 | GM285 | Latch Handle |
| 7 | GM286 | Latch Pivot Shaft |
| 8 | GM287 | Latch Rod |
| 9 | GM288 | Bolt 3/4" x 9" GR.5 |
| 10 | HE7 | 3/4"-10 Lock Nut |
| 11 | GM289 | Transport Lock Clamp |
| 12 | GM290 | Transport Lock Latch |
| 13 | PB190 | Lynch Pin |
| 14 | GM370 | Handle Grip |
| 15 | S122 | Lanyard |
| 16 | GM180 | Pivot Spacer |
| 17 | GM39 | Latch Pin |
| 18 | GM369 | Latch Pivot Pin |
| 19 | ES7 | Hair Pin |

Figure 21
Optional Lights & Fenders

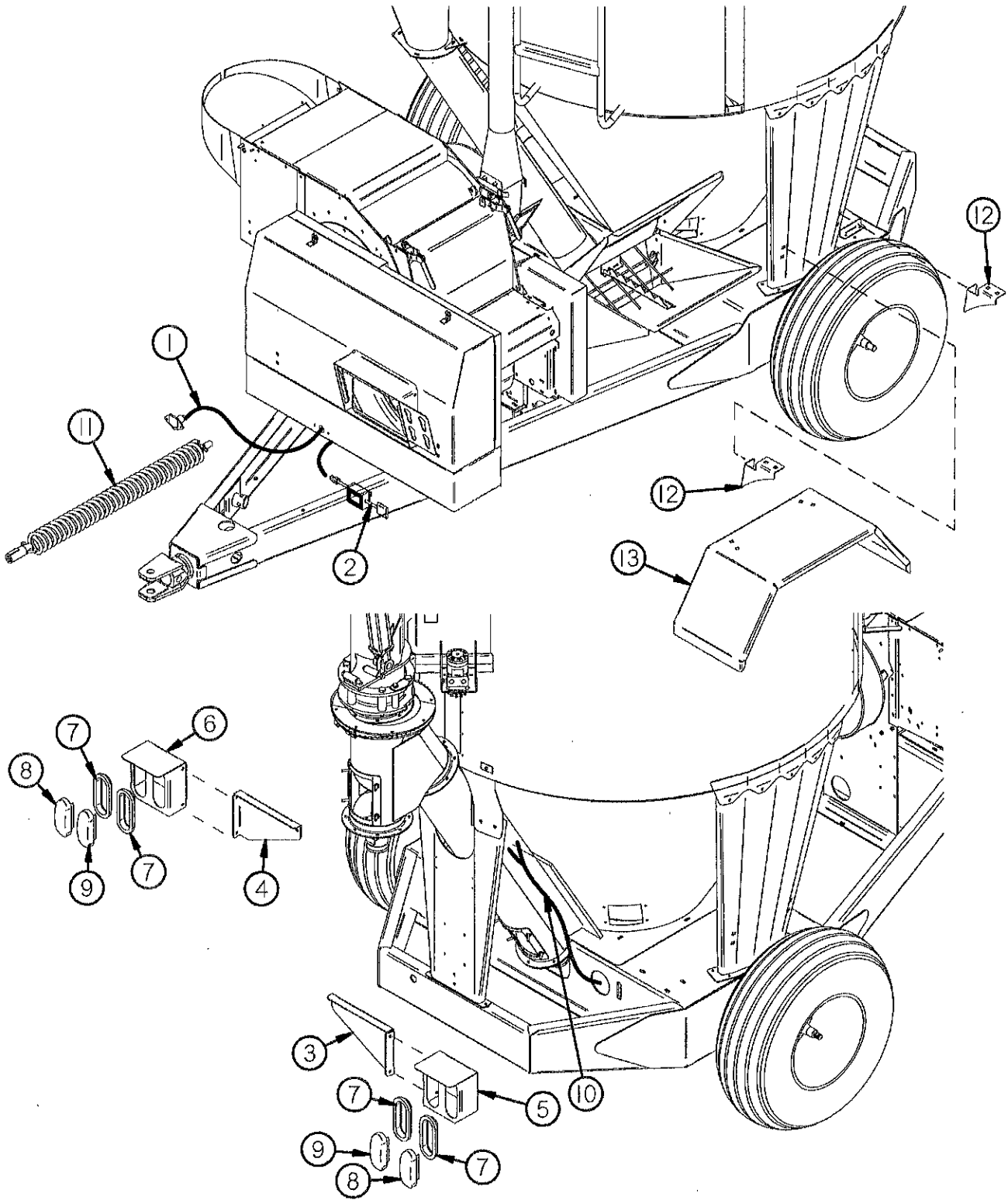


Figure 21 Optional Lights & Fenders

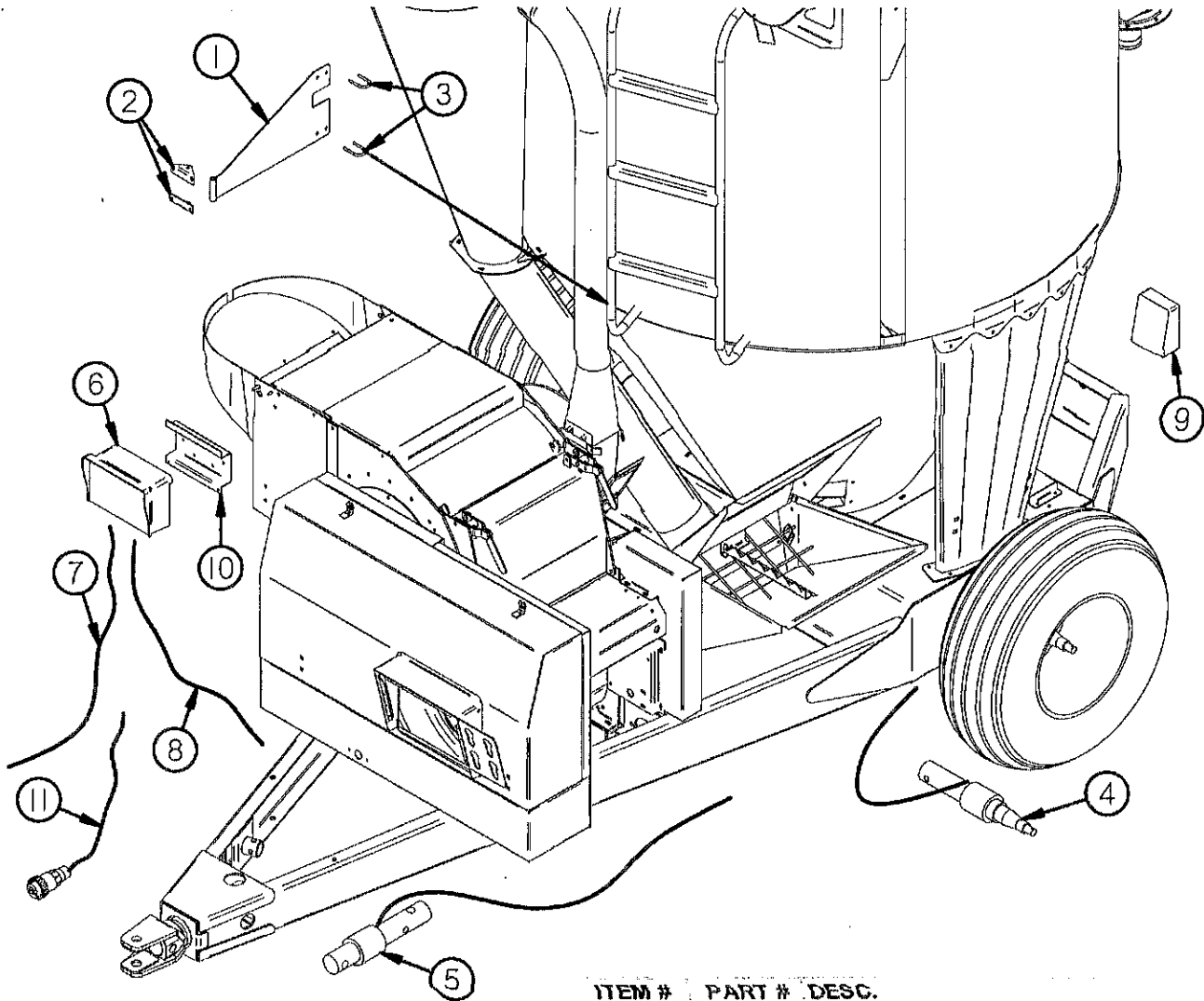
LIGHTS

| ITEM # | PART # | DESC. |
|--------|--------|-----------------------|
| 1 | 56N154 | Flasher Module Loom |
| 2 | S441 | Flasher Module |
| 3 | GM330 | Light Bracket Right |
| 4 | GM331 | Light Bracket Left |
| 5 | 55N62 | Light Housing Right |
| 6 | 55N61 | Light Housing Left |
| 7 | S308 | Rubber Grommet |
| 8 | S309 | Amber Hazard Light |
| 9 | S310 | Red Hazard Light |
| 10 | GM502 | Light Harness |
| 11 | S317 | Optional Tractor Cord |

FENDERS

| | | |
|----|-------|---------------------------|
| 12 | GM332 | Fenders Support |
| 13 | GM333 | Fender (Fits Either Side) |

Figure 22 Optional Scale



| ITEM # | PART # | DESC. |
|--------|---------|-------------------------------|
| 1 | GM400 | Control Box Arm |
| 2 | GM401 | Control Box Mount |
| 3 | GM119 | U Bolt 5/16" x 2" |
| 4 | GM402 | Spindle Load Cell (146772) |
| 5 | GM403 | Hitch Load Cell (143480) |
| 6 | GM404 | Scale Display (400590) |
| 7 | GM405 | Power Cord |
| 8 | GM406 | Junction Box Cord |
| 9 | GM407 | Junction Box (404465) |
| 10 | GM408 | Scale Hanger Bracket (840459) |
| 11 | 16SV269 | Tractor Power Cord |