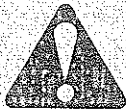
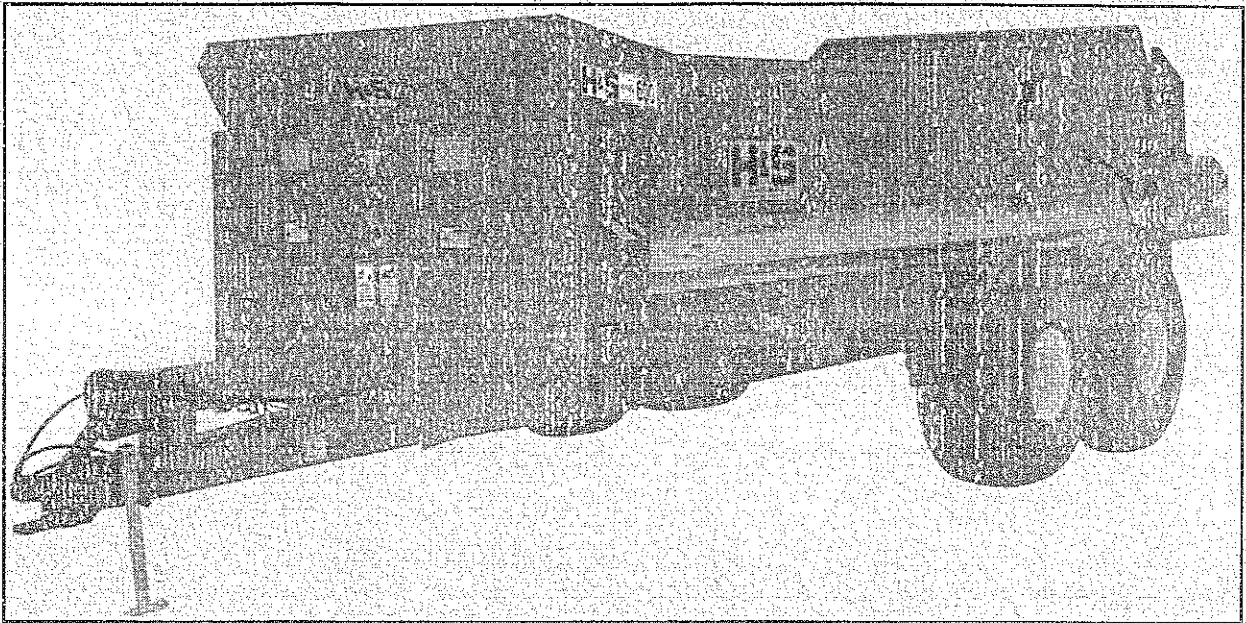


# H&S

## Heavy Duty Manure Spreader



### WARNING

READ AND UNDERSTAND THIS MANUAL BEFORE OPERATING THIS EQUIPMENT.

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

## MODELS 500 & 600 PARTS & OPERATOR'S MANUAL

7-27-00

Manufactured By

### H&S MANUFACTURING CO., INC.

P.O. BOX 768 • (715) 387-3414 FAX (715) 384-5463

MARSHFIELD, WISCONSIN 54449

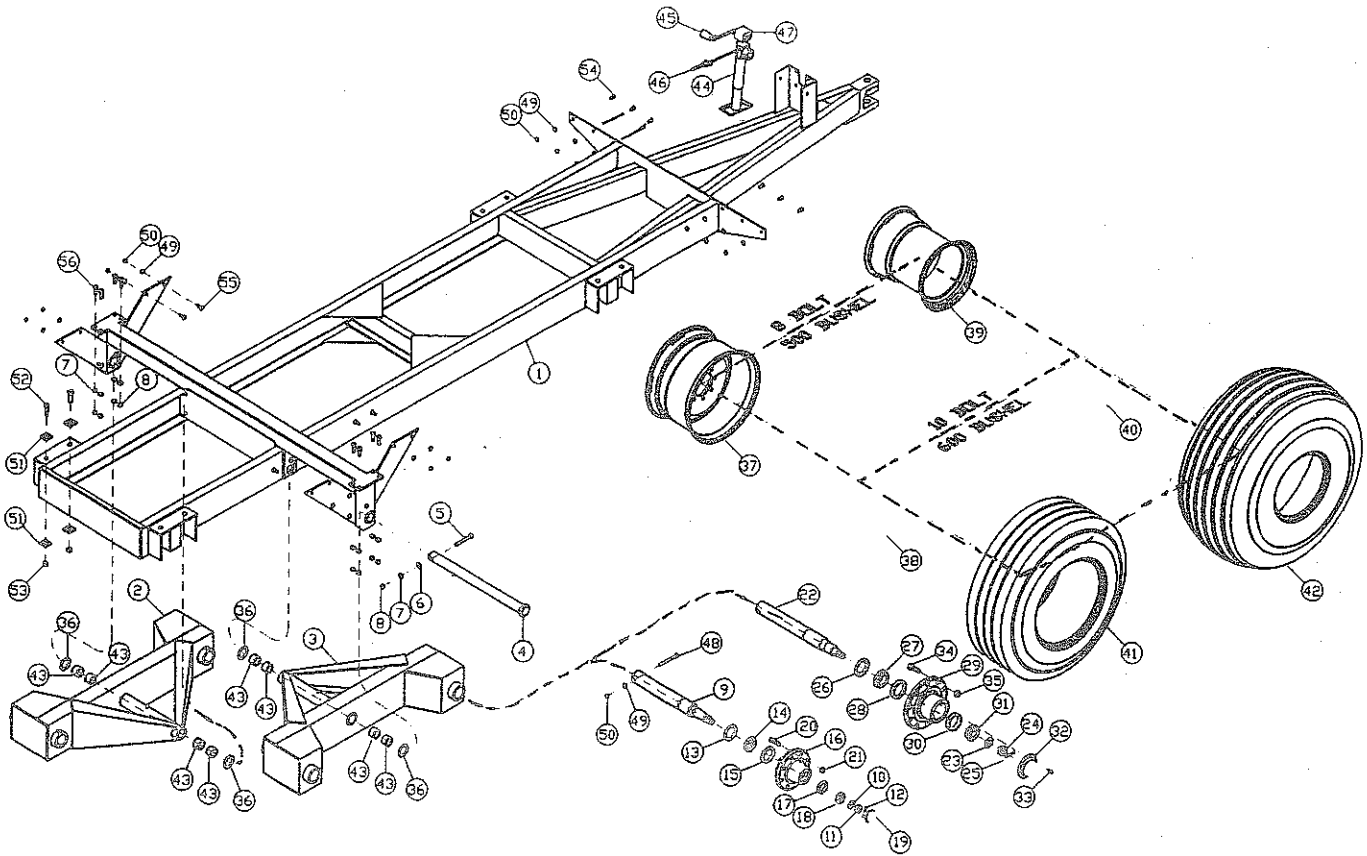
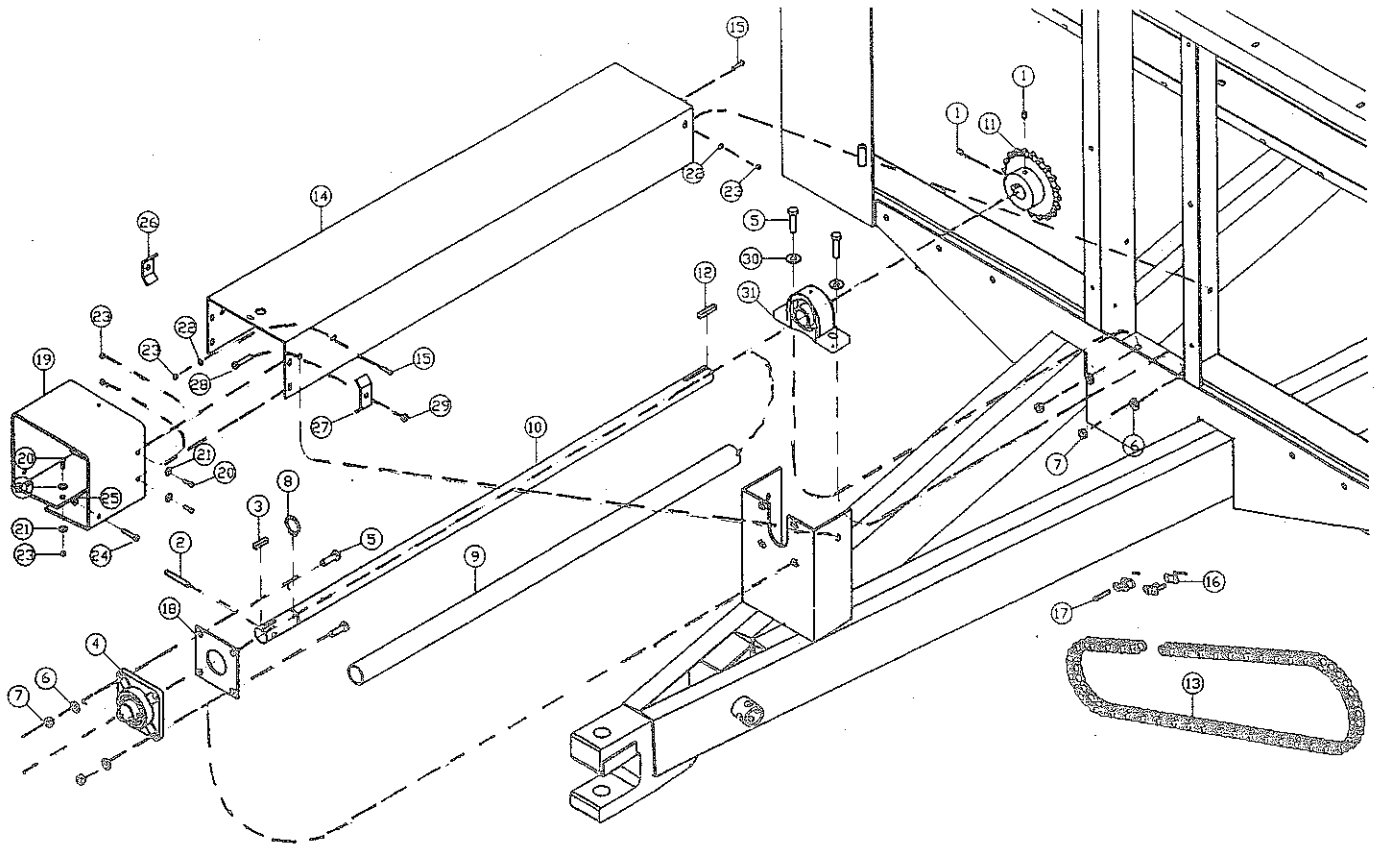


FIGURE 1  
CHASSIS & AXLE ASSEMBLIES

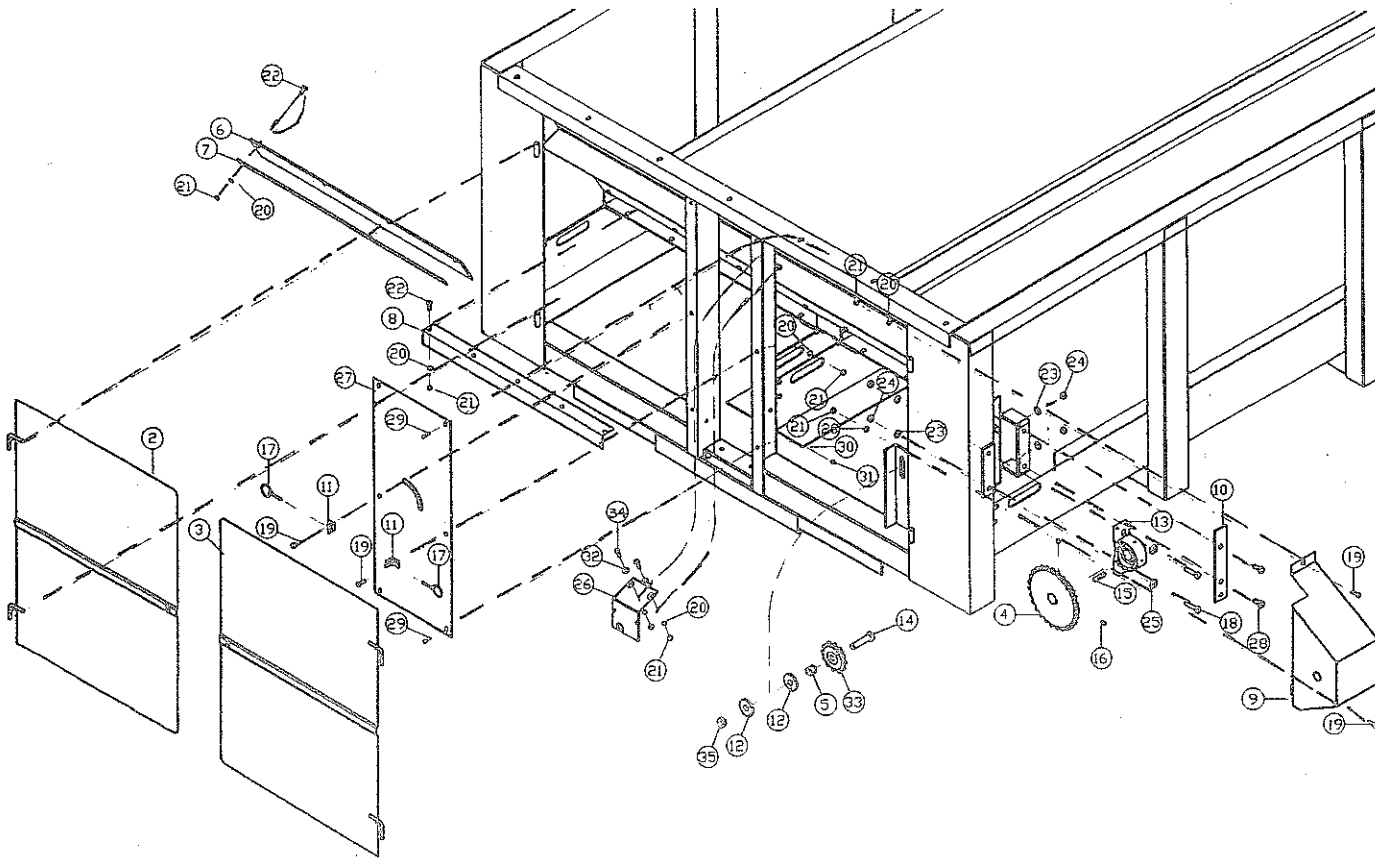
| ITEM | P/N    | DESCRIPTION                   | ITEM | P/N    | DESCRIPTION                       |
|------|--------|-------------------------------|------|--------|-----------------------------------|
| 1.   | 50N150 | Main Frame                    | 29.  | 60N8   | Hub                               |
| 2.   | 50N151 | LH Tandem Beam                | 30.  | 60N10  | Outer Race - 600 BU               |
| 3.   | 50N152 | RH Tandem Beam                | 31.  | 60N9   | Outer Bearing - 600 BU            |
| 4.   | 50N153 | Tandem Pin                    | 32.  | 60N11  | Hub Cap - 600 BU                  |
| 5.   | RG174  | Bolt 5/8" x 5" GR.5           | 33.  | 60N12  | Hub Cap Bolt - 600 BU             |
| 6.   | RG8    | 5/8" Flat Washer              | 34.  | 60N13  | Stud - 600 BU                     |
| 7.   | T69    | Lock Washer 5/8"              | 35.  | 60N14  | Stud Nut - 600 BU                 |
| 8.   | T68    | Nut 5/8"                      | 36.  | RG59   | Spacer                            |
| 9.   | 50N5   | Spindle 3" x 25-5/8" (500 BU) | 37.  | 16SV89 | Wheel (22-1/2 x 13-1/2 - 8 Bolt)  |
| 10.  | B4     | Spindle Washer                | 38.  | 60N15  | Wheel (22-1/2 x 13-1/2 - 10 Bolt) |
| 11.  | T35    | Spindle Nut                   | 39.  | 50N6   | Wheel (16.1 x 18 - 8 Bolt)        |
| 12.  | 33SV46 | Spindle Cotter Key            | 40.  | 60N16  | Wheel (16.1x18 - 10 Bolt)         |
| 13.  | 33SV42 | Seal                          | 41.  | 16SV88 | Tire (425 x 22.5 - Truck)         |
| 14.  | 33SV43 | Inner Bearing                 | 42.  | 50N7   | Tire (21.51 x 16.1 - Flotation)   |
| 15.  | 33SV44 | Inner Race                    | 43.  | 50N8   | Bushing                           |
| 16.  | 33SV45 | Hub                           | 44.  | 50N9   | 5000# x 15" Jack                  |
| 17.  | RG169  | Outer Race                    | 45.  | 12N12  | Jack Handle                       |
| 18.  | RG170  | Outer Bearing                 | 46.  | 12N13  | Jack Pin & Chain                  |
| 19.  | RG171  | Hub Cap                       | 47.  | 12N9   | Replacement Gears (NOT SHOWN)     |
| 20.  | 33SV41 | Stud                          | 48.  | 50N10  | Bolt 1/2" x 5" GR.2               |
| 21.  | RG72   | Stud Nut                      | 49.  | R35    | Lock Washer 1/2"                  |
| 22.  | 60N1   | Spindle 3" x 27-5/8" (600 BU) | 50.  | R29    | Nut 1/2"                          |
| 23.  | 60N2   | Spindle Washer                | 51.  | 50N98  | Mount Reinforcement Plate         |
| 24.  | 60N3   | Spindle Nut                   | 52.  | 16SV50 | Bolt 3/4" x 2-1/2" GR.5           |
| 25.  | 60N4   | Cotter Key                    | 53.  | HE7    | Lock Nut 3/4"                     |
| 26.  | 60N5   | Seal                          | 54.  | RG135  | Bolt 1/2" x 1" GR.5               |
| 27.  | 60N7   | Inner Bearing                 | 55.  | R10    | Carriage Bolt 1/2" x 1" GR.5      |
| 28.  | 60N6   | Inner Race                    | 56.  | BFR439 | Bolt 5/8" x 1-3/4" GR.5           |



**FIGURE 2  
SHIELD & INPUT ASSEMBLY**

| ITEM | P/N    | DESCRIPTION             | ITEM | P/N     | DESCRIPTION                           |
|------|--------|-------------------------|------|---------|---------------------------------------|
| 1.   | ---    | PTO Set Screw           | 18.  | 50N167  | Front Bearing Mount                   |
| 2.   | 12V59  | PTO Roll Pin            | 19.  | 50N163  | PTO Rubber                            |
| 3.   | G139   | PTO Key 3/8" x 1-1/2"   | 20.  | K83     | Bolt 1/4" x 3/4" GR.2                 |
| 4.   | 12V67  | Input Shaft Bearing     | 21.  | T16     | Flat Washer 1/4"                      |
| 5.   | 50N11  | Bolt 1/2" x 1-1/2" GR.2 | 22.  | K84     | Lock Washer 1/4"                      |
| 6.   | R35    | Lock Washer 1/2"        | 23.  | LW140   | Nut 1/4"                              |
| 7.   | R29    | Nut 1/2"                | 24.  | 16SV192 | Shear Bolt 5/16" x 1" GR.5 (1000 RPM) |
| 8.   | 12V62  | Snap Ring               | ---  | 16SV191 | Shear Bolt 3/8" x 1" GR.8 (540 RPM)   |
| 9.   | 50N155 | Shield                  | 25.  | 16SV194 | Shear Nut 5/16"                       |
| 10.  | 50N154 | Input Shaft             | ---  | 16SV193 | Shear Nut 3/8"                        |
| 11.  | 12V104 | Sprocket 20T (1000 RPM) | 26.  | 23N67   | Hose Bracket, RH                      |
| *    | 50N45  | Sprocket 27T (540 RPM)  | 27.  | HE42    | Hose Bracket, LH                      |
| 12.  | PB87   | Key 3/8" x 2" Sq.       | 28.  | BFR320  | Bolt 3/8" x 1-3/4" GR.2               |
| 13.  | 50N148 | #80 Chain - 123 Pitch   | 29.  | K93     | Lock Nut 3/8"                         |
| 14.  | 50N149 | Input Shaft Shield      | 30.  | K68     | Flat Washer 1/2"                      |
| 15.  | D110   | Bolt 1/4" x 1" GR.2     | 31.  | 16SV72  | Front Shaft Bearing                   |
| 16.  | F157   | #80 Chain Connector     |      |         |                                       |
| 17.  | F158   | #80 Chain Offset        |      |         |                                       |

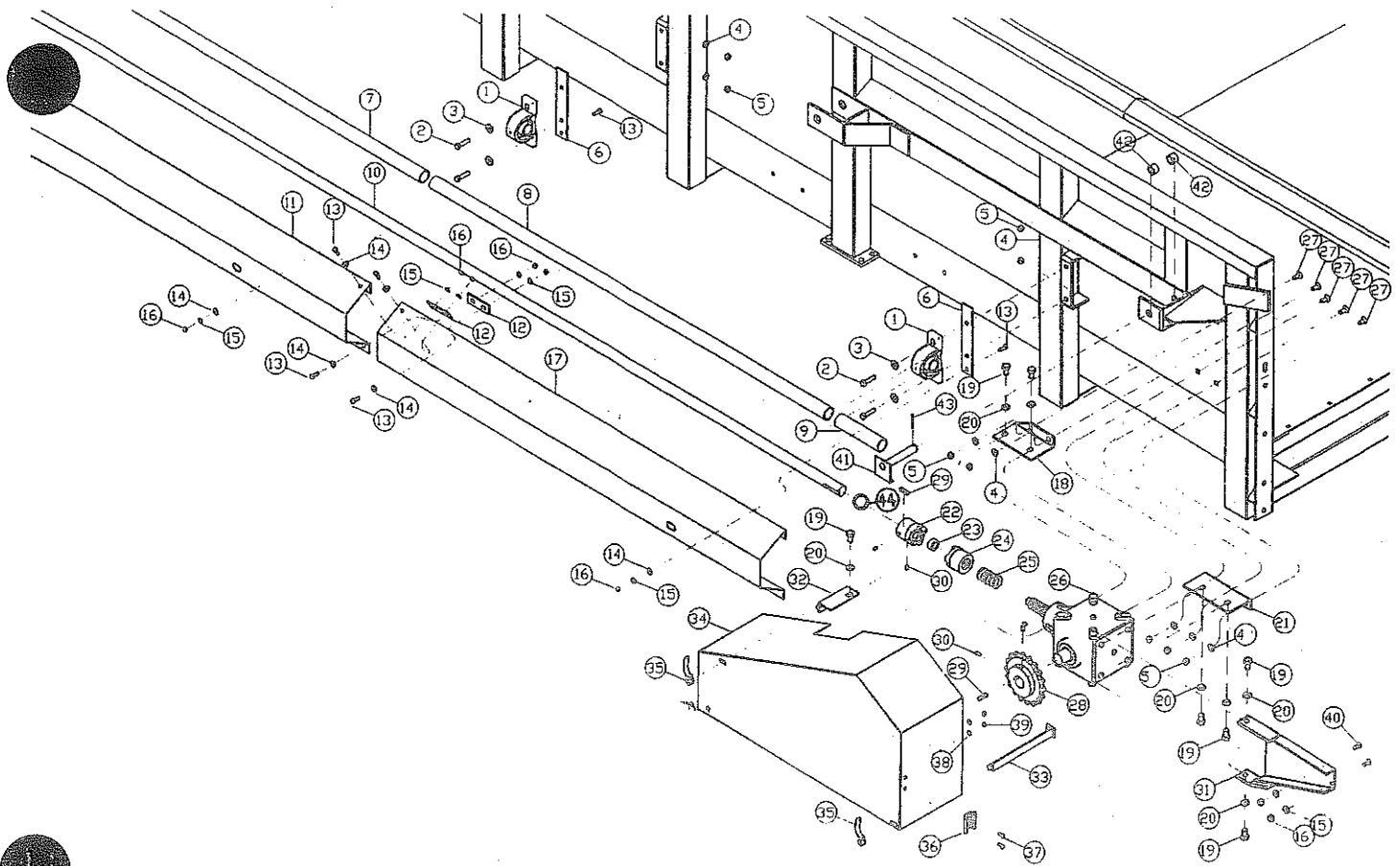
NOTE: \* (Means Not Shown)



**FIGURE 3  
FRONT ASSEMBLY**

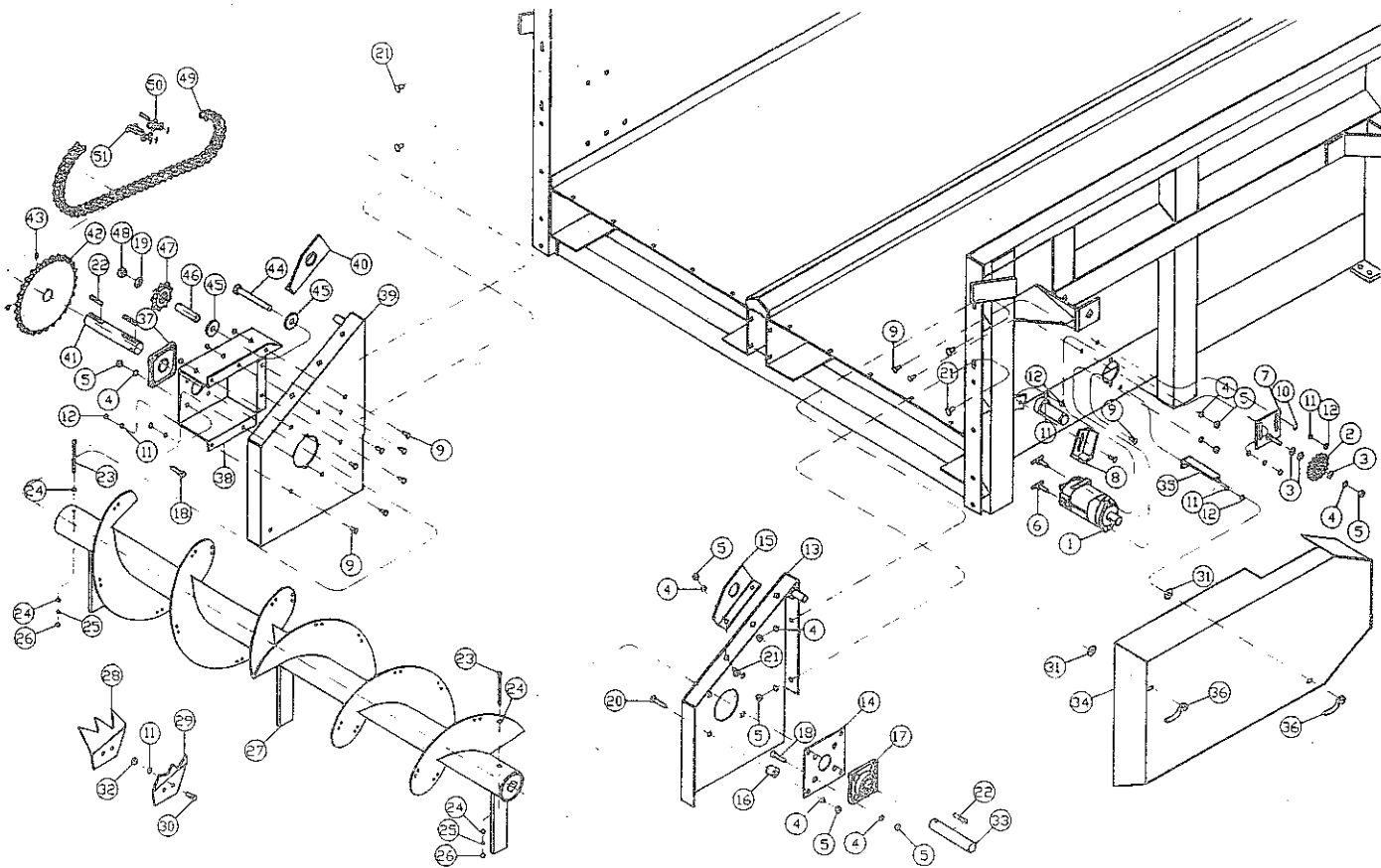
| ITEM | P/N     | DESCRIPTION              | ITEM P/N | DESCRIPTION                         |
|------|---------|--------------------------|----------|-------------------------------------|
| 1.   | 50N145  | Tub                      | 19.      | A15 Bolt 3/8" x 1" GR.2             |
| 2.   | 50N143  | RH Front Shield          | 20.      | B68 Lock Washer 3/8"                |
| 3.   | 50N144  | LH Front Shield          | 21.      | K60 Nut 3/8"                        |
| 4.   | 50N45   | Sprocket 27T (1000 RPM)  | 22.      | BFR247 Carriage Bolt 3/8" x 1" GR.5 |
| *    | 12V104  | Sprocket 20T (540 RPM)   | 23.      | R35 Lock Washer 1/2"                |
| 5.   | 50N162  | Side Tightener Spacer    | 24.      | R29 Nut 1/2"                        |
| 6.   | 50N50   | Front Panel Rubber       | 25.      | K68 Flat Washer 1/2"                |
| 7.   | 50N51   | Front Panel Strap        | 26.      | 16SV331 Flow Control Mount          |
| 8.   | 50N52   | Front Floor Brace        | 27.      | 50N159 Control Panel                |
| 9.   | 50N141  | Side Sprocket Shield     | 28.      | RG75 Bolt 1/2" x 1" GR.2            |
| 10.  | 50N158  | Side Shield Bracket      | 29.      | D110 Bolt 1/4" x 1" GR.2            |
| 11.  | F92     | Front Shield Mount       | 30.      | K84 Lock Washer 1/4"                |
| 12.  | 16SV211 | Tightener Washer         | 31.      | LW140 Nut 1/4"                      |
| 13.  | 16SV72  | Front Jackshaft Bracket  | 32.      | K135 Flat Washer 3/8"               |
| 14.  | 18N48   | Bolt 3/4" x 3" Bolt GR.5 | 33.      | 12V77 Tightener Sprocket            |
| 15.  | PB87    | 3/8" x 2" Sq. Key        | 34.      | A15 Bolt 3/8" x 1" GR.2             |
| 16.  | ---     | 3/8" Set Screw           | 35.      | HE7 Lock Nut 3/4"                   |
| 17.  | F56     | Linchpin                 |          |                                     |
| 18.  | F52     | Bolt 1/2" x 2" GR.5      |          |                                     |

NOTE: \* (Means Not Shown)



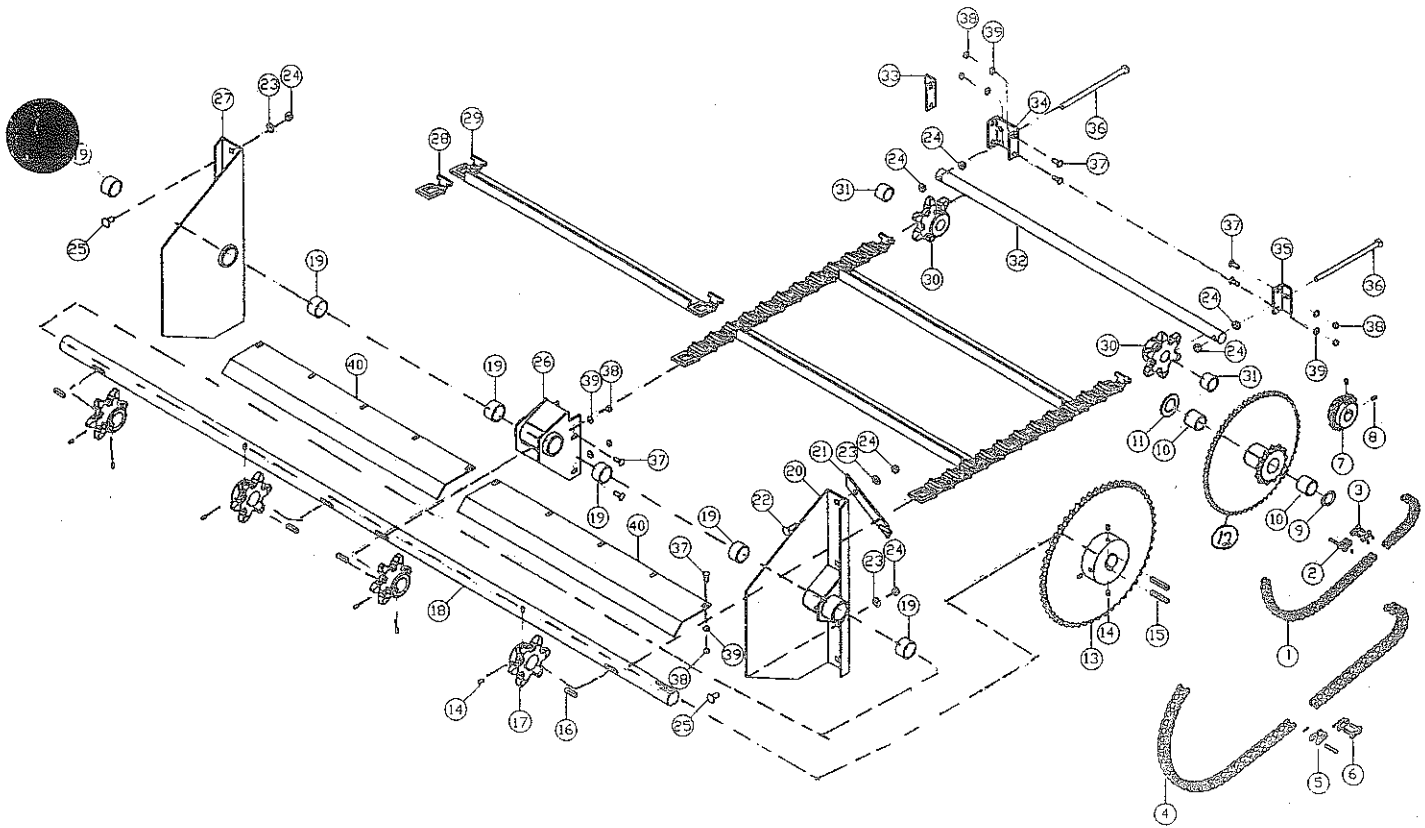
**FIGURE 4  
SIDE SHIELDS & DRIVE ASSEMBLIES**

| ITEM | P/N    | DESCRIPTION                      | ITEM | P/N    | DESCRIPTION                      |
|------|--------|----------------------------------|------|--------|----------------------------------|
| 1.   | 16SV72 | Side Shaft Bearing               | 23.  | 16SV70 | Bushing 1-1/2" OD x 1" ID x 3/4" |
| 2.   | F52    | Bolt 1/2" x 2" GR.5              | 24.  | 16SV71 | Spine Clutch                     |
| 3.   | K68    | Flat Washer 1/2"                 | 25.  | 43NW17 | Clutch Spring                    |
| 4.   | R35    | Lock Washer 1/2"                 | 26.  | 50N96  | Complete Gearbox                 |
| 5.   | R29    | Nut 1/2"                         | 27.  | 50N82  | Carriage Bolt 1/2" x 1" GR.5     |
| 6.   | 50N158 | Shield Bracket                   | 28.  | 50N107 | Sprocket 18T                     |
| 7.   | 50N101 | Shaft Guard 1-1/2" PVC x 94-3/8" | 29.  | 16SV90 | 3/8" x 1-1/2" Sq. Key            |
| 8.   | 50N102 | Shaft Guard 1-1/2" PVC x 76-1/8" | 30.  | ---    | 3/8"-16 Set Screw                |
| 9.   | 50N103 | Shaft Guard 1-1/2" PVC x 8-1/4"  | 31.  | 50N106 | Gearbox Brace                    |
| 10.  | 50N166 | Side Shaft                       | 32.  | 50N112 | Gearbox Shield Front Mount       |
| 11.  | 50N156 | Side Shield Front                | 33.  | 50N113 | Gearbox Shield Rear Mount        |
| 12.  | 50N110 | Side Shield Splice Tab           | 34.  | 50N111 | Gearbox Shield                   |
| 13.  | A15    | Bolt 3/8" x 1" GR.5              | 35.  | S192   | Gearbox Shield Fastener          |
| 14.  | X67    | Flat Washer 3/8"                 | 36.  | F97    | SMV Bracket                      |
| 15.  | B68    | Lock Washer 3/8"                 | 37.  | 50N116 | Carriage Bolx 5/16" x 3/4" GR.2  |
| 16.  | K60    | Nut 3/8"                         | 38.  | RGB39  | Lock Washer 5/16"                |
| 17.  | 50N157 | Side Shield Rear                 | 39.  | T116   | Nut 5/16"                        |
| 18.  | 50N104 | Top Gearbox Mount                | 40.  | BFR247 | Carriage Bolt 3/8" x 1" GR.2     |
| 19.  | 50N115 | Bolt 5/8" x 1" GR.5              | 41.  | BFR139 | Piston End Cylinder Pin          |
| 20.  | T69    | Lock Washer 5/8"                 | 42.  | 50N133 | Piston End Cylinder Spacer       |
| 21.  | 50N105 | Bottom Gearbox Mount             | 43.  | T56    | Cotter Key                       |
| 22.  | 16SV69 | Keyed Clutch                     | 44.  | 50N178 | Lock Collar                      |



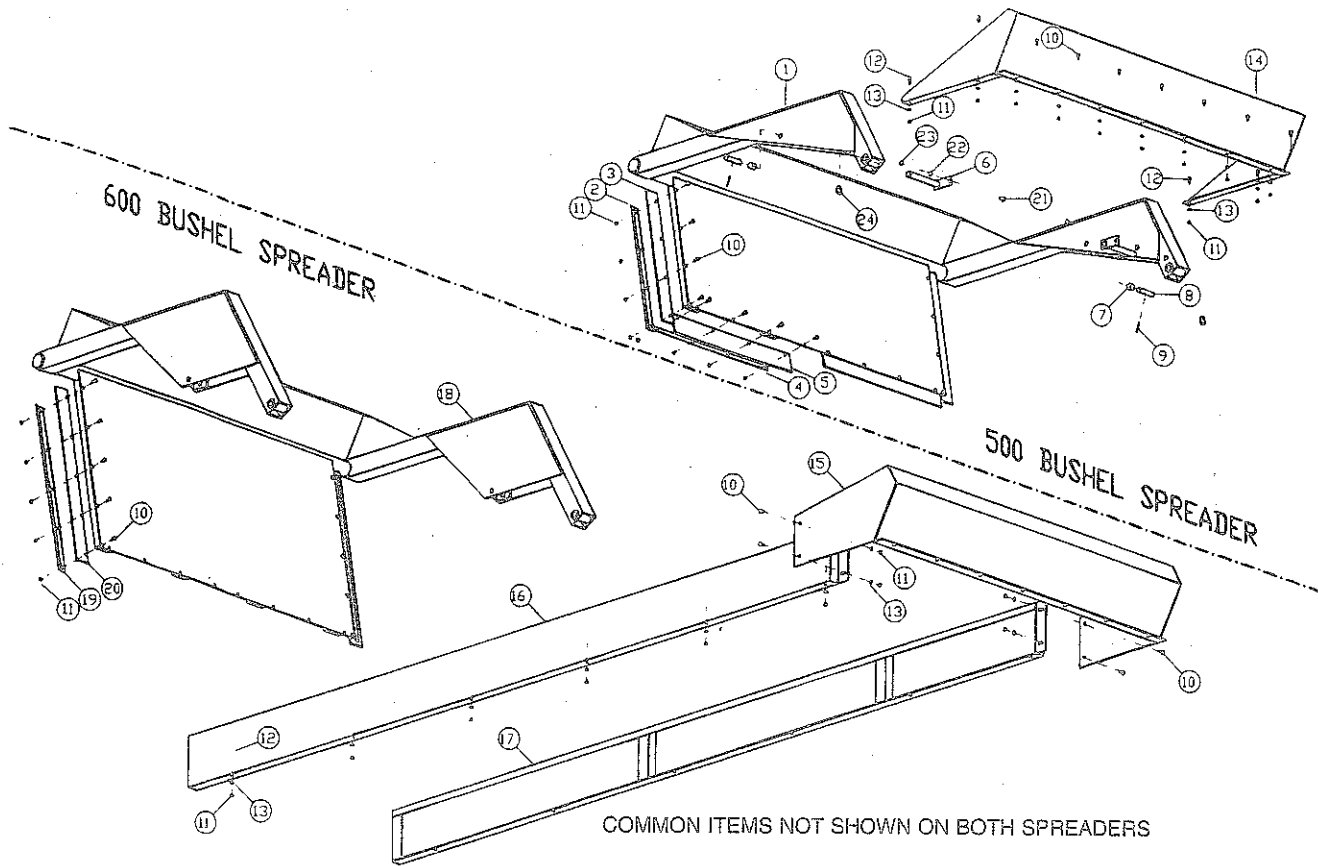
**FIGURE 5  
BEATER & BEATER DRIVE ASSEMBLIES**

| ITEM | P/N     | DESCRIPTION                       | ITEM | P/N     | DESCRIPTION                                    |
|------|---------|-----------------------------------|------|---------|--|
| 1.   | 16SV150 | Hydraulic Motor                   | 27.  | 50N122  | Beater   |
| 2.   | 12N42   | Sprocket 15T                      | 28.  | 50N117  | LH Beater Blade                                |
| 3.   | K68     | Flat Washer 1/2"                  | 29.  | 50N118  | RH Beater Blade                                |
| 4.   | R35     | Lock Washer 1/2"                  | 30.  | R10     | Beater Blade Bolt 1/2" x 1-1/4" GR.5 (Special) |
| 5.   | R29     | Nut 1/2"                          | 31.  | K135    | Flat Washer 3/8"                               |
| 6.   | 50N77   | Hydraulic Motor Fastener          | 32.  | R11     | Top Lock Nut 1/2"                              |
| 7.   | 50N71   | Hydraulic Motor Tightener Bracket | 33.  | 50N123  | RH Beater Shaft                                |
| 8.   | 50N75   | Apron Drive Tightener             | 34.  | 50N72   | Apron Shield                                   |
| 9.   | BFR247  | Carriage Bolt 3/8" x 1" GR.5      | 35.  | 50N73   | Front Apron Shield Mount                       |
| 10.  | X67     | Flat Washer 3/8"                  | 36.  | S192    | Shield Handle Nut                              |
| 11.  | R35     | Lock Washer 1/2"                  | 37.  | 50N58   | LH Beater Bearing                              |
| 12.  | K60     | Nut 3/8"                          | 38.  | 50N126  | LH Beater Bearing Support                      |
| 13.  | 50N125  | RH Beater Panel                   | 39.  | 50N124  | LH Beater Panel                                |
| 14.  | 50N26   | RH Beater Bearing Support         | 40.  | 50N127  | LH Beater Lifting Eyelet                       |
| 15.  | 50N128  | RH Beater Lifting Eyelet          | 41.  | 50N121  | LH Beater Drive Shaft                          |
| 16.  | 50N27   | Bearing Support Spacer            | 42.  | 50N120  | Sprocket 28T                                   |
| 17.  | 50N29   | RH Beater Bearing                 | 43.  | ---     | 3/8" Set Screw                                 |
| 18.  | 50N11   | Bolt 1/2" x 1-1/2" GR.5           | 44.  | 50N129  | Bolt 3/4" x 6" GR.5                            |
| 19.  | 16SV49  | Washer                            | 45.  | 16SV211 | Beater Tightener Washer                        |
| 20.  | 50N32   | Carriage Bolt 1/2" x 2" GR.5      | 46.  | 50N119  | Beater Tightener Spacer                        |
| 21.  | 50N82   | Carriage Bolt 1/2" x 1" GR.5      | 47.  | 33SV30  | Sprocket 9T                                    |
| 22.  | S38     | 3/8" x 2-3/8" Sq. Key             | 48.  | HE7     | Lock Nut 3/4"                                  |
| 23.  | 23N1    | Bolt 5/16" x 5" GR.5              | 49.  | 50N130  | Beater Chain #100 60 Pitch                     |
| 24.  | ---     | Flat Washer 5/16"                 | 50.  | 33SV76  | #100 Chain Offset                              |
| 25.  | RGB39   | Lock Washer 5/16"                 | 51.  | 33SV77  | #100 Chain Connector                           |
| 26.  | D81     | Nut 5/16"                         |      |         |  |



**FIGURE 6**  
**APRON CHAIN & DRIVE ASSEMBLIES**

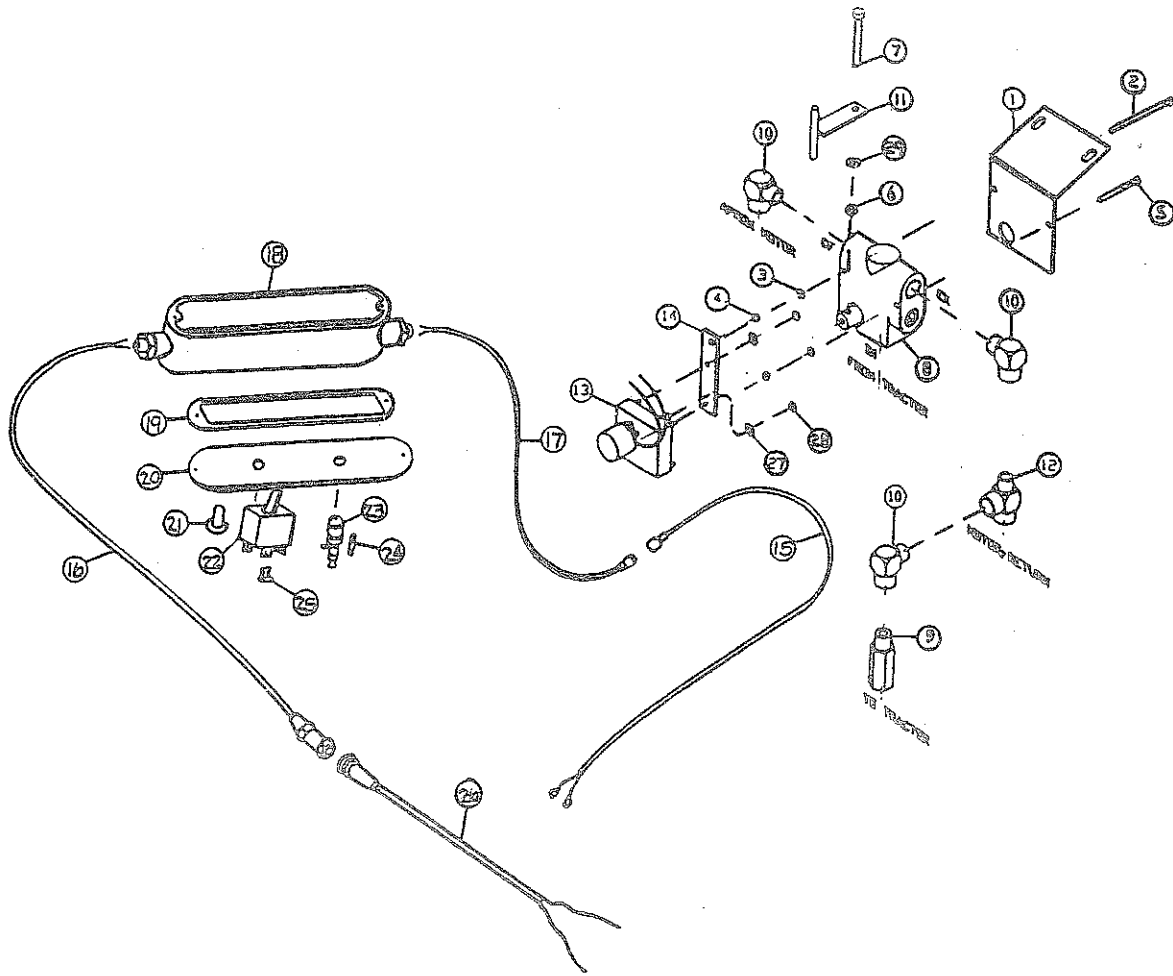
| ITEM | P/N    | DESCRIPTION                            | ITEM | P/N    | DESCRIPTION                         |
|------|--------|--|------|--------|-------------------------------------|
| 1.   | 50N79  | #60 Chain 78 Pitches                   | 21.  | 50N74  | Rear Apron Shield Mount             |
| 2.   | D38    | #60 Chain Offset                       | 22.  | 50N81  | Carriage Bolt 1/2" x 1-1/2" GR.5    |
| 3.   | D39    | #60 Chain Connector                    | 23.  | R35    | Lock Washer 1/2"                    |
| 4.   | 50N80  | #80 Chain 69 Pitches                   | 24.  | R29    | Nut 1/2"                            |
| 5.   | F158   | #80 Chain Offset                       | 25.  | 50N82  | Carriage Bolt 1/2" x 1" GR. 5       |
| 6.   | F157   | #80 Chain Connector                    | 26.  | 50N62  | Center Apron Bearing Bracket        |
| 7.   | 16SV31 | Sprocket 16T                           | 27.  | 50N146 | LH Apron Shaft Bracket              |
| 8.   | ---    | 5/16" Setscrew                         | 28.  | A12    | 67 T-Bar Link - 284                 |
| 9.   | 12V62  | Snap Ring                              | 29.  | 50N57  | 67 T-Bar Slat - 28                  |
| 10.  | 17G134 | Bushing 1-3/4" OD x 1-1/2" ID x 1-1/2" | 30.  | JB10   | 6T Apron Sprocket                   |
| 11.  | 50N76  | Reduction Sprocket Spacer              | 31.  | 50N67  | Apron Idler Shaft Spacer            |
| 12.  | 50N69  | Reduction Sprocket                     | 32.  | 50N68  | Apron Idler Shaft                   |
| 13.  | 50N70  | Sprocket 52T                           | 33.  | 50N64  | LH Apron Tightener Bracket          |
| 14.  | ---    | 3/8" Setscrew                          | 34.  | 50N66  | Center Apron Tightener Bracket      |
| 15.  | S38    | 3/8" x 2-3/8" Sq. Key                  | 35.  | 50N65  | RH Apron Tightener Bracket          |
| 16.  | G139   | 3/8" x 1-1/2" Sq. Key                  | 36.  | A7     | Bolt 1/2" x 9-1/2" GR.5 Full Thread |
| 17.  | 50N177 | Apron Drive Sprocket                   | 37.  | BFR247 | Carriage Bolt 3/8" x 1" GR.5        |
| 18.  | 50N63  | Apron Drive Shaft                      | 38.  | K60    | Nut 3/8"                            |
| 19.  | S50    | Bushing 2" OD x 1-3/4" ID x 1-1/8"     | 39.  | B68    | Lock Washer 3/8"                    |
| 20.  | 50N147 | RH Apron Shaft Bracket                 | 40.  | 50N83  | Rear Apron Brace                    |



**FIGURE 7**  
**ENDGATES, FRONT SPLASHES & SIDE EXTENSIONS**

| ITEM | P/N    | DESCRIPTION                   | ITEM | P/N   | DESCRIPTION                  |
|------|--------|-------------------------------|------|-------|------------------------------|
| 1.   | 50N84  | Endgate - 500 Bushel          | 13.  | B68   | Lock Washer 3/8"             |
| 2.   | 50N85  | Endgate Side Strap            | 14.  | 50N91 | Front Splash - 500 BU        |
| 3.   | 50N86  | Endgate Side Rubber           | 15.  | 60N20 | Front Splash - 600 BU        |
| 4.   | 50N87  | Endgate Bottom Strap          | 16.  | 60N22 | RH Side Extension - 600 BU   |
| 5.   | 50N88  | Endgate Bottom Rubber         | 17.  | 60N21 | LH Side Extension - 600 BU   |
| 6.   | 50N142 | Endgate Pivot Pin             | 18.  | 60N17 | Endgate - 600 BU             |
| 7.   | 50N138 | Rod End Cylinder Spacer       | 19.  | 60N18 | Endgate Side Strap - 600 BU  |
| 8.   | 50N90  | Endgate Rod End Pin           | 20.  | 60N19 | Endgate Side Rubber - 600 BU |
| 9.   | T56    | 5/32" x 2" Cotter Pin         | 21.  | 50N82 | Carriage Bolt 1/2" x 1" GR.5 |
| 10.  | BFR247 | Carriage Bolt 3/8" x 1" GR. 5 | 22.  | R35   | Lock Washer 1/2"             |
| 11.  | K60    | Nut 3/8"                      | 23.  | R29   | Nut 1/2"                     |
| 12.  | A15    | Bolt 3/8" x 1"                | 24.  | F73   | External Snap Ring 1-1/4"    |

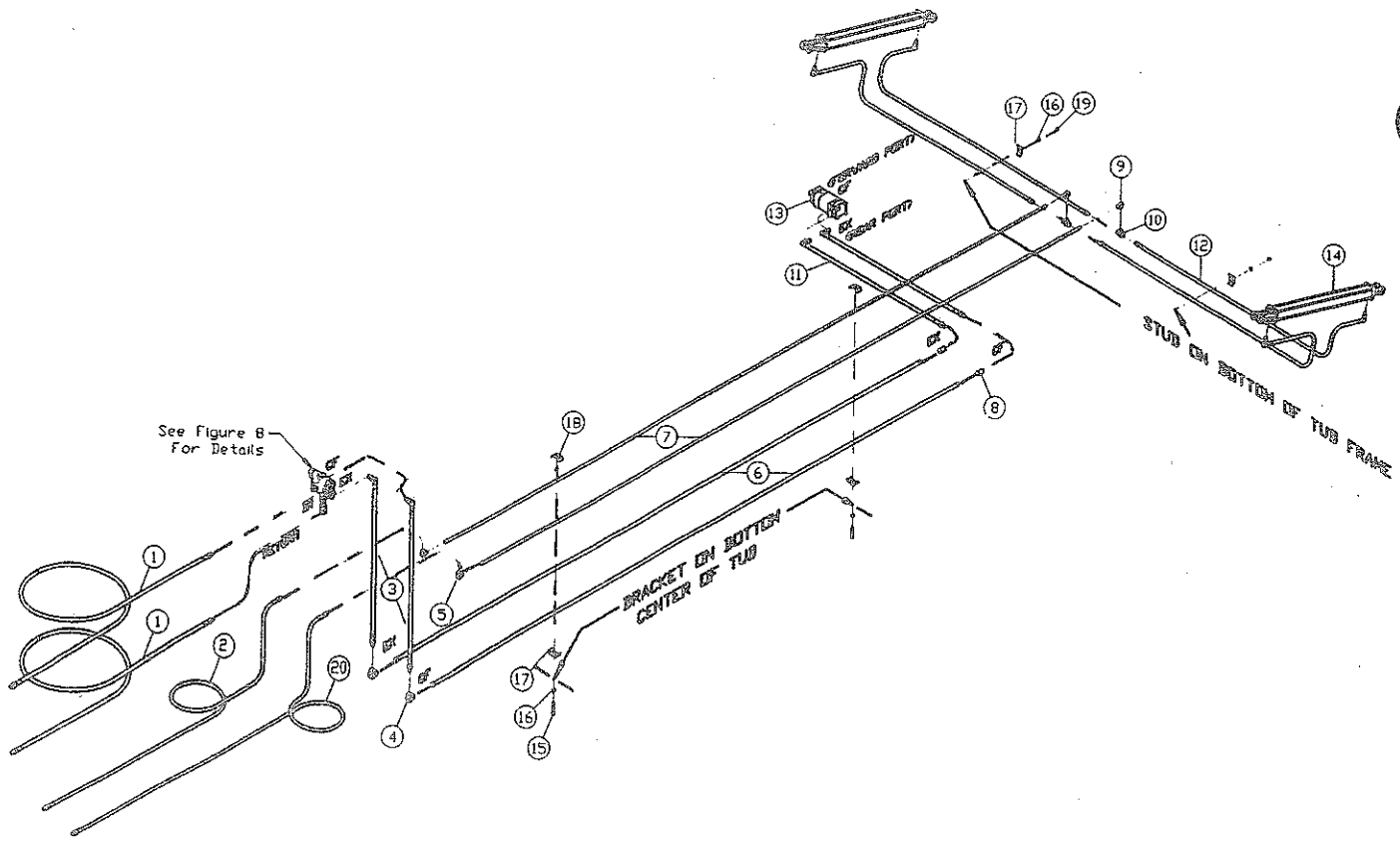




**FIGURE 8**  
**ELECTRIC / HYDRAULIC CONTROL**

| ITEM | P/N     | DESCRIPTION               | ITEM | P/N      | DESCRIPTION                             |
|------|---------|---------------------------|------|----------|---|
| 1.   | 16SV331 | Flow Control Mount        | 15.  | 16SV272  | Spreader Power Supply Cord W/Ends       |
| 2.   | 16SV348 | Bolt 1/4" x 4" GR.2       | 16.  | 16SV271  | Control Box Power Supply W/Rug In Slots |
| 3.   | K84     | Lock Washer 1/4"          | 17.  | 116SV270 | Tractor Power Supply W/Pins             |
| 4.   | LW140   | Nut 1/4"                  | 18.  | 16SV316  | Control Box                             |
| 5.   | 16SV349 | Bolt 1/4" x 2-1/2" GR.2   | 19.  | 16SV317  | Control Box Gasket                      |
| 6.   | K93     | Lock Nut 3/8"             | 20.  | 16SV318  | Control Box Cover                       |
| 7.   | X26     | Bolt 3/8" x 3" GR.2       | 21.  | 16SV235  | Switch Boot                             |
| 8.   | 16SV347 | Flow Control              | 22.  | 16SV319  | Auger Speed Switch                      |
| 9.   | DF18    | Check Valve               | 23.  | 16SV231  | Fuse Holder                             |
| 10.  | HE58    | Street Elbow              | 24.  | 16SV232  | Fuse                                    |
| 11.  | 16SV242 | Flow Pointer              | 25.  | 16SV320  | Flag                                    |
| 12.  | LW96    | Service Tee               | 26.  | 16SV269  | Tractor Control Cord                    |
| 13.  | 16SV246 | Gear Motor                | 27.  | 50N169   | Nut #10-32                              |
| 14.  | 16SV245 | Speed Control Motor Mount | 28.  | 50N170   | #10 Int./Ext. Star Washer               |
|      |         |                           | 29.  | B68      | Lock Washer 3/8"                        |
|      |         |                           | *    | 16SV321  | Control Box Complete                    |

NOTE: \* (Means Not Shown)



**FIGURE 9  
HYDRAULICS ASSEMBLY**

| ITEM | P/N     | DESCRIPTION            | ITEM | P/N     | DESCRIPTION             |
|------|---------|------------------------|------|---------|-------------------------|
| 1.   | 50N17   | Apron Hose             | 11.  | 50N134  | Hydraulic Motor Hose    |
| 2.   | 16SV140 | Short Endgate Hose     | 12.  | 23N113  | Hydraulic Cylinder Hose |
| 3.   | 50N18   | Flow Control Hose      | 13.  | 16SV150 | Hydraulic Motor         |
| 4.   | 50N135  | 1/2" Female Elbow      | 14.  | 50N92   | Hydraulic Cylinder      |
| 5.   | HE59    | 3/8" Female Elbow      | 15.  | 43H5    | Bolt 3/8" x 3" GR.2     |
| 6.   | 50N160  | Motor Hydraulic Line   | 16.  | B68     | Lock Washer 3/8"        |
| 7.   | 50N161  | Endgate Hydraulic Line | 17.  | 23N67   | Hydraulic Line Holder   |
| 8.   | PB105   | 1/2" Coupling          | 18.  | 50N137  | Hydraulic Line Holder   |
| 9.   | 23N234  | 3/8" Street Elbow      | 19.  | K60     | Nut 3/8"                |
| 10.  | BFR74   | 3/8" Female Tee        | 20.  | 50N164  | Long Endgate Hose       |

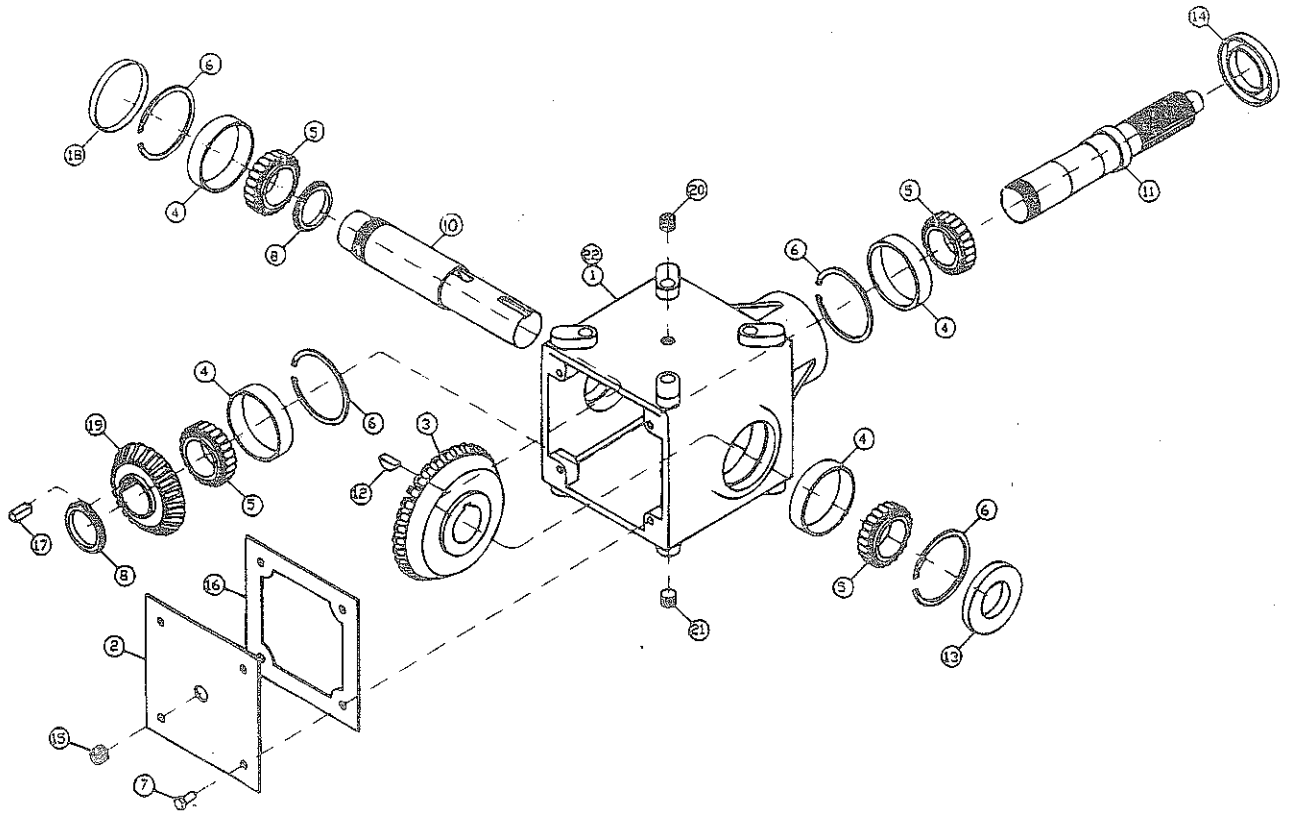
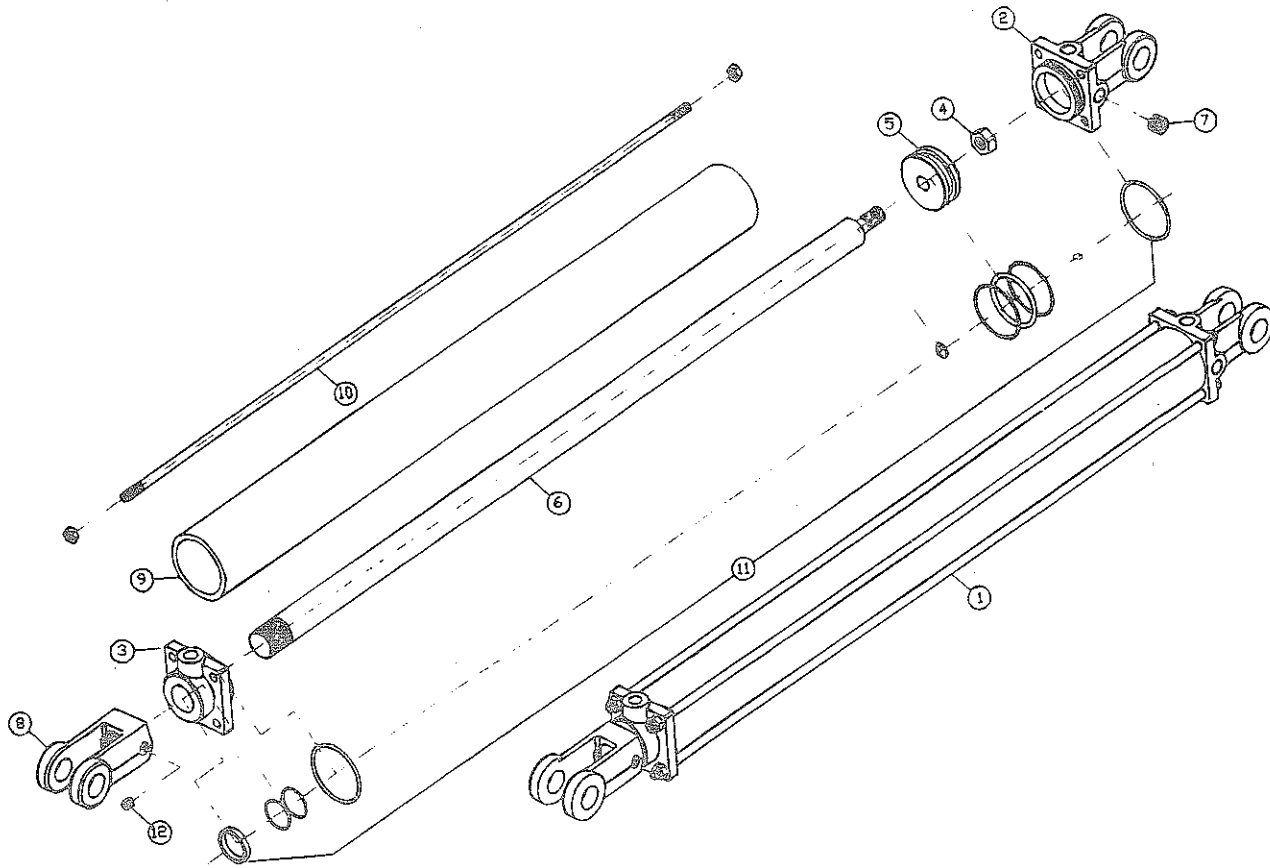


FIGURE 10  
GEARBOX ASSEMBLY

| ITEM | P/N   | DESCRIPTION          | ITEM | P/N    | DESCRIPTION          |
|------|-------|----------------------|------|--------|----------------------|
| 1.   | G125  | Housing              | 12.  | G61    | Woodruff Key         |
| 2.   | G126  | Cover                | 13.  | G136   | Seal, Output         |
| 3.   | G127  | Bevel Gear, 33 Tooth | 14.  | G137   | Seal, Input          |
| 4.   | G128  | Bearing Cup          | 15.  | G65    | Plug 3/8" NPT        |
| 5.   | G129  | Bearing Cone         | 16.  | G138   | Gasket               |
| 6.   | G130  | Snap Ring            | 17.  | 50N140 | 3/8" x 1" Sq. Key    |
| 7.   | G131  | Cap Screw            | 18.  | G140   | Cap                  |
| 8.   | G132  | Stake Nut            | 19.  | G142   | Bevel Gear, 22 Tooth |
| 9.   | G133  | Stake Nut            | 20.  | G144   | Vent Plug            |
| 10.  | 50N99 | Shaft, Output        | 21.  | G145   | Plug                 |
| 11.  | G135  | Shaft, Input         | 22.  | 50N96  | Gearbox, Complete    |



**FIGURE 11  
HYDRAULIC CYLINDER ASSEMBLY**

| ITEM | P/N    | DESCRIPTION       | ITEM | P/N    | DESCRIPTION   |
|------|--------|-------------------|------|--------|---------------|
| 1.   | 50N92  | Complete Cylinder | 7.   | 23N149 | Plug          |
| 2.   | T181   | Clevis Cap        | 8.   | 23N150 | Rod Clevis    |
| 3.   | T182   | Rod Cap           | 9.   | 50N94  | Cylinder Tube |
| 4.   | 23N148 | Piston Nut        | 10.  | 50N95  | Tie Rod       |
| 5.   | T183   | Piston            | 11.  | T187   | Seal Kit      |
| 6.   | 50N93  | Rod               | 12.  | ---    | Setscrew      |

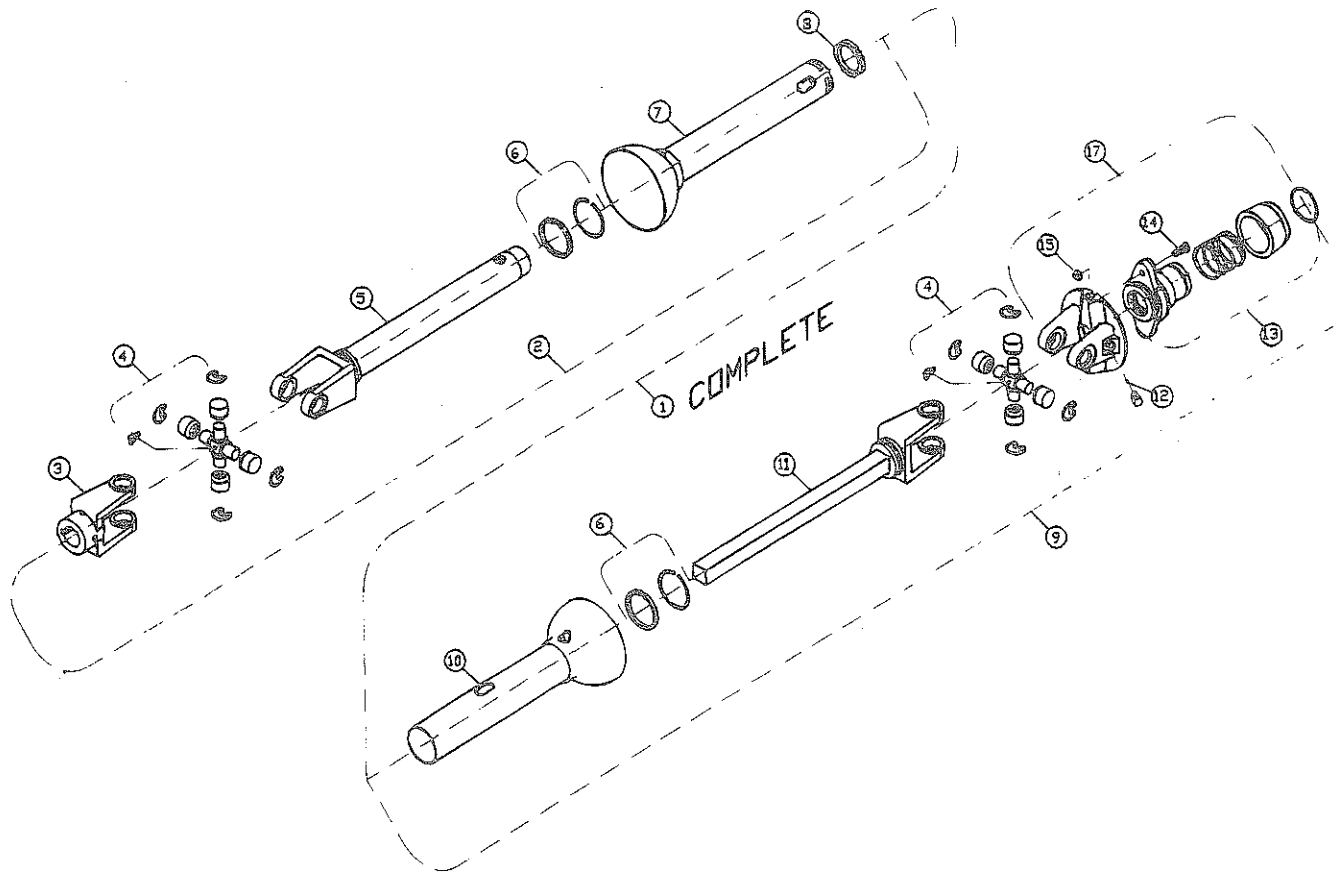


FIGURE 12  
PTO ASSEMBLIES

| ITEM | 540 RPM | 1000 RPM - 1-3/8" | 1000 RPM - 1-3/4" | DESCRIPTION                  |
|------|---------|-------------------|-------------------|------------------------------|
| 1.   | 16SV172 | 16SV173           | 16SV174           | Complete PTO                 |
| 2.   | 16SV175 | "                 | "                 | Joint & Tube Half w/Guard    |
| 3.   | 16SV178 | "                 | "                 | End Yoke                     |
| 4.   | 16SV179 | "                 | "                 | Repair Kit (U-Joint)         |
| 5.   | 16SV180 | "                 | "                 | Yoke & Tube Assembly         |
| 6.   | 16SV181 | "                 | "                 | Guard Retainer Repair Kit    |
| 7.   | 16SV182 | "                 | "                 | Inner Guard                  |
| 8.   | 4A27    | "                 | "                 | Nylon Centralizer            |
| 9.   | 16SV183 | 16SV184           | 16SV185           | Joint & Shaft Half w/Guard   |
| 10.  | 16SV186 | "                 | "                 | Outer Guard                  |
| 11.  | 16SV187 | "                 | "                 | Yoke & Shaft Assembly        |
| 12.  | 16SV188 | "                 | "                 | Ball Shear Repair Kit (31 )  |
| 13.  | 16SV189 | "                 | 16SV190           | Safety Slide Lock Repair Kit |
| 14.  | 16SV191 | 16SV192           | "                 | Bolt, Shear                  |
| 15.  | 16SV193 | 16SV194           | "                 | Lock Nut, Top                |
| 16.  | 16SV195 | 16SV196           | 16SV197           | Ball Shear Assembly          |
| 17.  | 16SV198 | 16SV199           | 16SV200           | Complete Ball Shear Assembly |

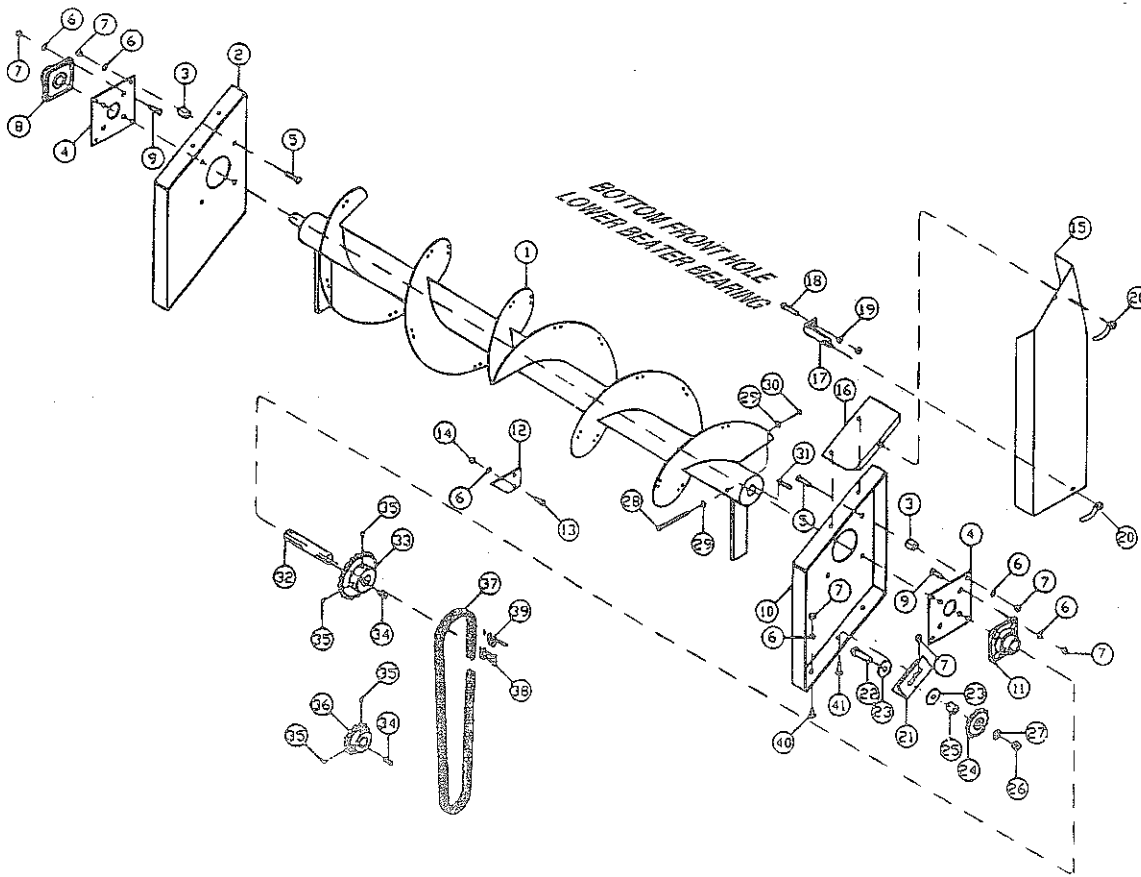


FIGURE 13  
2ND BEATER (OPTIONAL ON MODEL 500)

| ITEM | P/N     | DESCRIPTION                       | ITEM | P/N    | DESCRIPTION                      |
|------|---------|-----------------------------------|------|--------|----------------------------------|
| 1.   | 50N19   | 2nd Beater                        | 25.  | 16SV44 | Sprocket Spacer                  |
| 2.   | 50N20   | 2nd Beater LH Panel               | 26.  | HE7    | Lock Nut 3/4"                    |
| 3.   | 50N27   | Bearing Support Spacer            | 27.  | T73    | Tightener Washer                 |
| 4.   | 50N26   | Beater Support                    | 28.  | 23N1   | Bolt 5/16" x 5" GR.5             |
| 5.   | 50N32   | Carriage Bolt 1/2" x 2" GR.5      | 29.  | ---    | Flat Washer 5/16"                |
| 6.   | R35     | Lock Washer 1/2"                  | 30.  | D81    | Nut 5/16"                        |
| 7.   | R29     | Nut 1/2"                          | 31.  | S38    | Beater Plug Key 3/8" Sq.         |
| 8.   | 50N30   | LH Beater Bearing                 | 32.  | 50N28  | RH Drive Shaft                   |
| 9.   | 50N11   | Bolt 1/2" x 1-1/2" GR.5           | 33.  | 12V104 | Beater Sprocket 20T              |
| 10.  | 50N21   | 2nd Beater RH Panel               | 34.  | A32    | 3/8" x 1-3/8" Sq. Key            |
| 11.  | 50N29   | RH Beater Bearing                 | 35.  | ---    | Sprocket Set Screw               |
| 12.  | 16SV93  | Beater Pin                        | 36.  | ST11   | Sprocket 13T                     |
| 13.  | R10     | Bolt 1/2" x 1-1/4" GR.5 (Special) | 37.  | 50N31  | #80 Chain 70 Pitch               |
| 14.  | R11     | Lock Nut 1/2"                     | 38.  | F157   | #80 Chain Connector              |
| 15.  | 50N22   | Beater Chain Shield               | 39.  | F158   | #80 Chain Off Set                |
| 16.  | 50N23   | Top Shield Mount                  | 40.  | 50N81  | Carriage Bolt 1/2" x 1-1/2" GR.5 |
| 17.  | 50N24   | Shield Mount                      | 41.  | 50N32  | Carriage Bolt 1/2" x 2" GR.5     |
| 18.  | 17G98   | Carriage Bolt 1/2" x 2-1/2" GR.5  |      |        |                                  |
| 19.  | K68     | Flat Washer 1/2"                  |      |        |                                  |
| 20.  | S192    | Shield Handle Nut                 |      |        |                                  |
| 21.  | 50N25   | Tightener Bracket                 |      |        |                                  |
| 22.  | 16SV50  | Bolt 3/4" x 2-1/2" GR.5           |      |        |                                  |
| 23.  | 16SV211 | Washer                            |      |        |                                  |
| 24.  | 12V77   | Sprocket 12T                      |      |        |                                  |
| **   | 12V52   | Sprocket Bearing                  |      |        |                                  |

NOTE: \*\* (Means Not Shown)