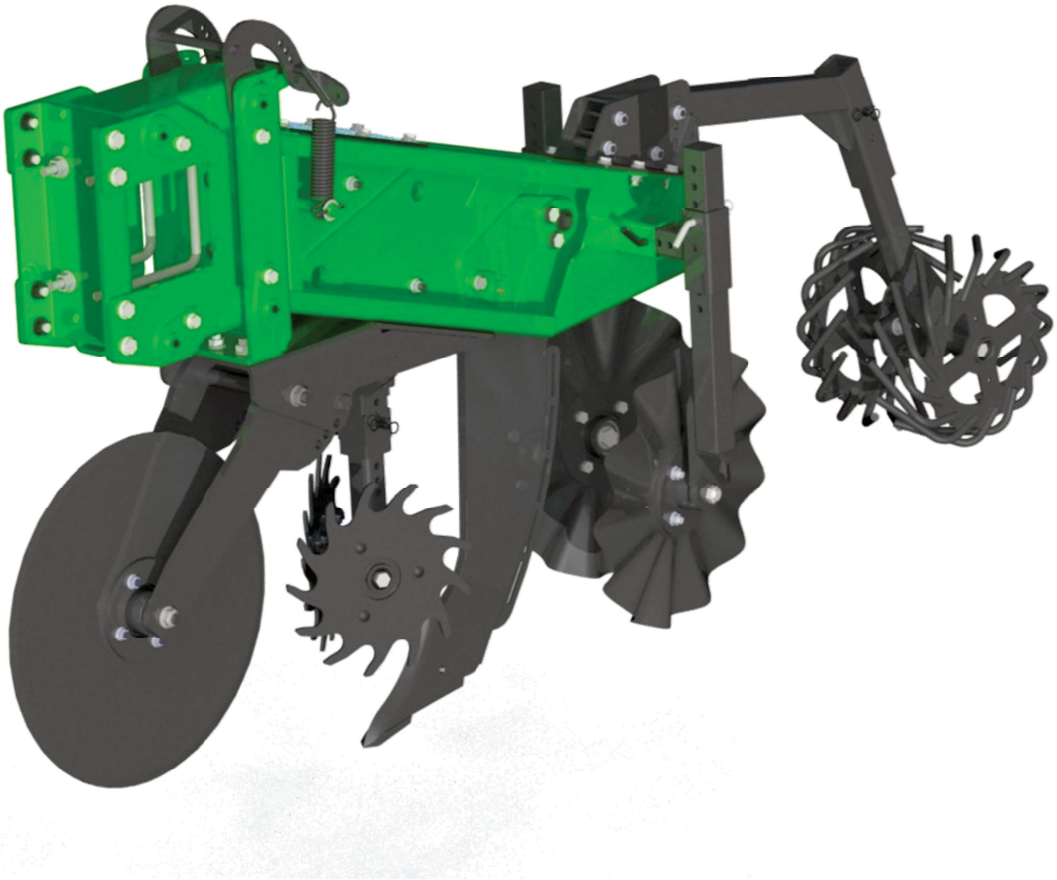
SCHLAGEL

# Rapid Till HD



## For HD-1000 Rapid Till HD Row Unit

Rev 2022

# RAPID TILL HD
# HD-1000
# OPERATOR'S MANUAL

This manual is applicable to models of the
HD-1000 Series.

For inquiries call or write to:
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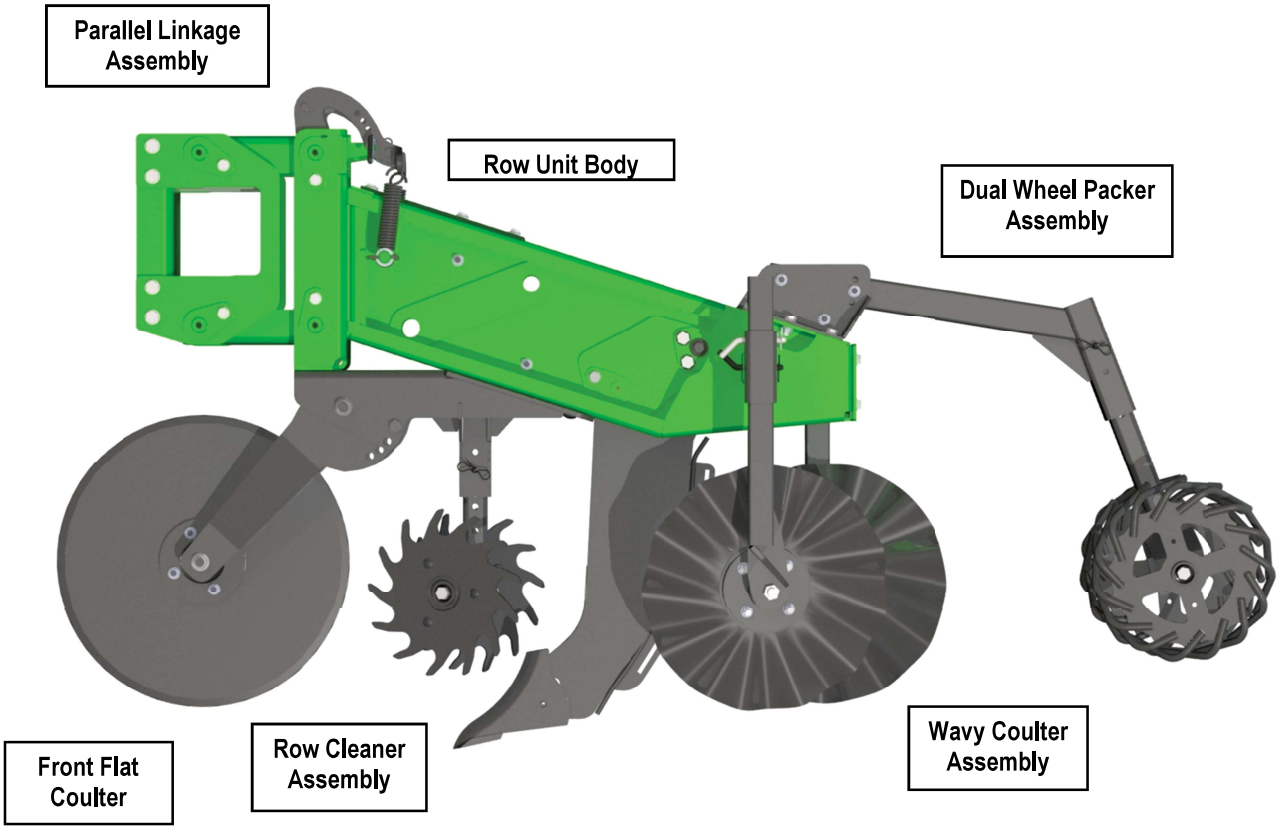
Torrington, WY 82240

Toll Free: 888-889-1504
Phone: 307-532-4451

E-mail: sales@schlagel.net
Website: www.schlagel.net

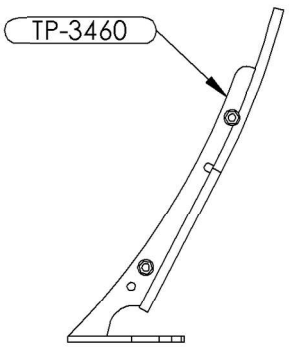
# RAPID TILL HD ROW UNIT COMMON ASSEMBLIES

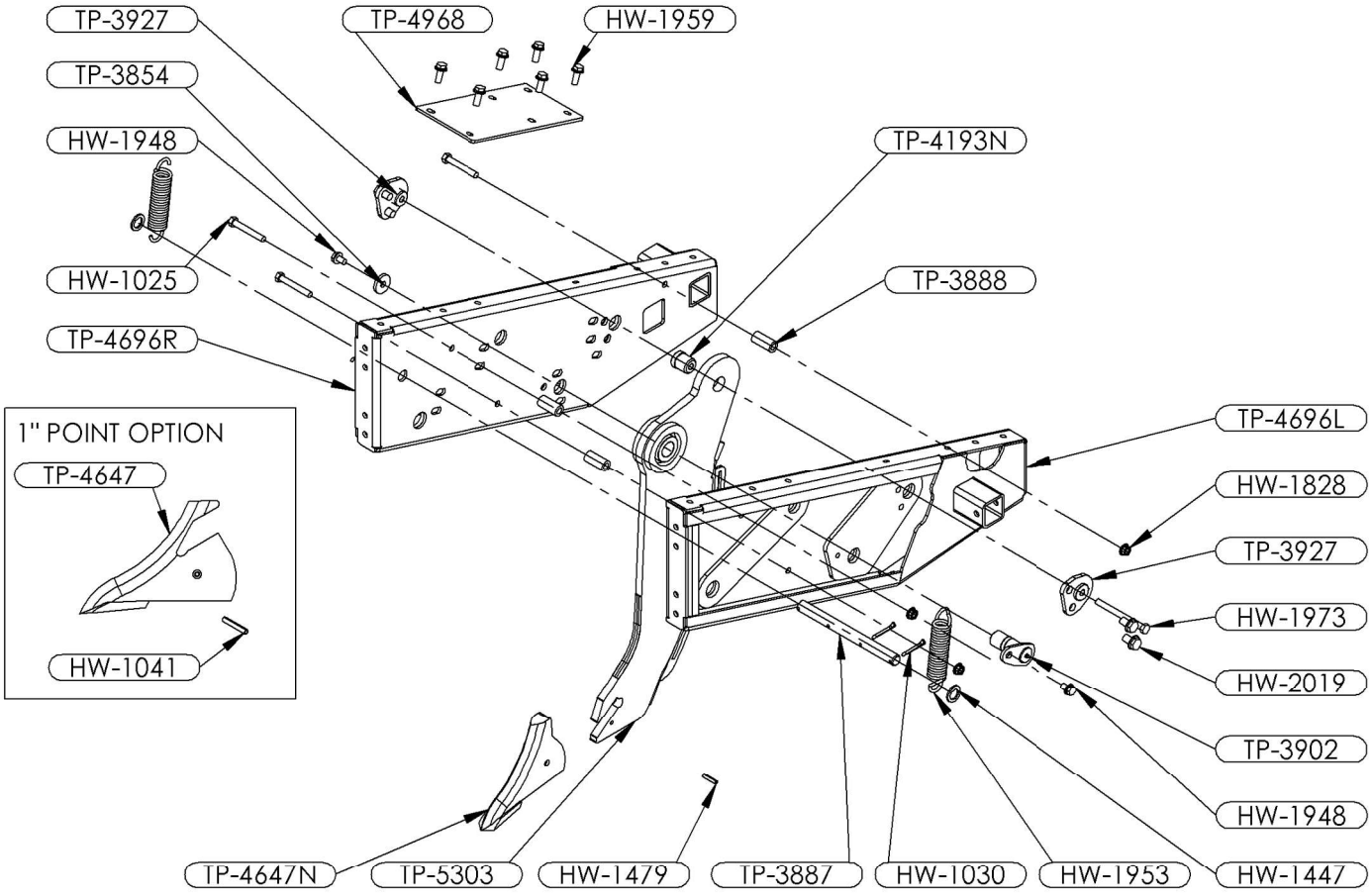


# SIDE BODY AND SHANK PARTS

| PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|
| HW-1025 | 1/2"-13 X 3-1/2" GR5 ZF HCS | 3 |
| HW-1030 | 1/4" X 2" COTTER PIN | 4 |
| HW-1447 | MACHINERY BUSHING, 1" X 1.5" X 10 GA | 2 |
| HW-1479 | ROLL PIN (SPRING PIN), 5/16" X 1.5", STAINLESS STEEL | 1 |
| HW-1828 | 1/2"-13 ZF SERRATED FN | 10 |
| HW-1948 | 1/2"-13 X 3/4" HH ZF SFB | 2 |
| HW-1953 | DOWN PRESSURE SPRING | 2 |
| HW-1959 | 1/2"-13 X 1-1/4" HH ZF SS FB | 6 |
| HW-1973 | 1/2"-13 X 5-1/2" GR5 ZF HCS | 1 |
| HW-2019 | 5/8"-11 X 1" HH ZF SFB | 4 |
| TP-3854 | WASHER, SHANK PIVOT PINS | 1 |
| TP-3887 | SPRING MOUNT ROD | 1 |
| TP-3888 | RU BODY SPACERS (2.125") | 3 |
| TP-3902 | WELDMENT, SHANK PIVOT PIN | 1 |
| TP-3927 | SHEAR PIN BLOCK | 2 |
| TP-4193N | SHEAR BOLT KIT: 3/4" SHANK INSERT | 1 |
| TP-4647N | POINT, 3/4" CAST | 1 |
| TP-4696L | WELDMENT: BODY HALVE (LEFT) | 1 |
| TP-4696R | WELDMENT: BODY HALVE (RIGHT) | 1 |
| TP-4968 | TOP PLATE | 1 |
| TP-5303 | MIN RISE TRIP SHANK | 1 |

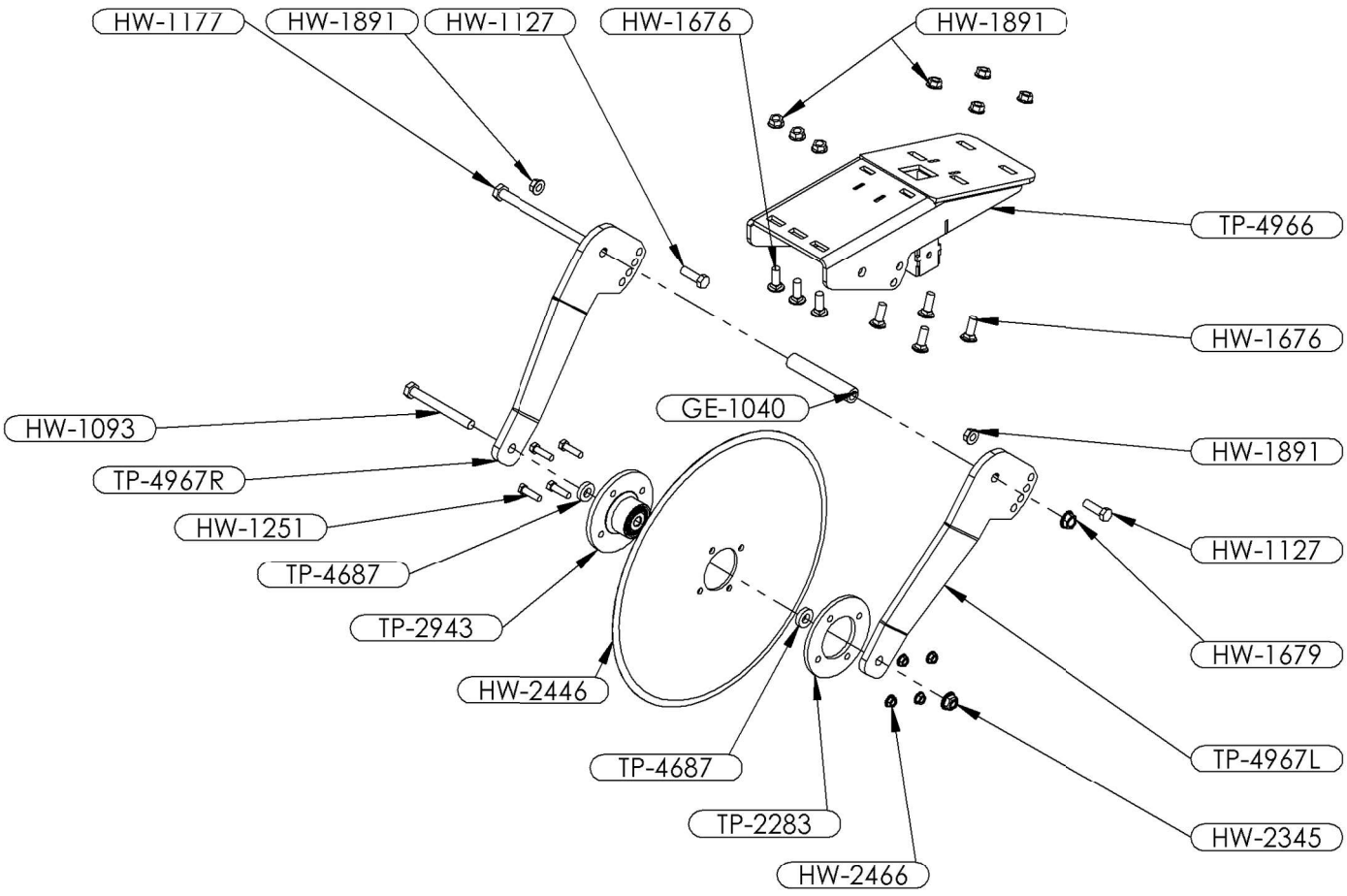
ADD-ON OPTION
ADJUSTABLE FERTILIZER TUBE



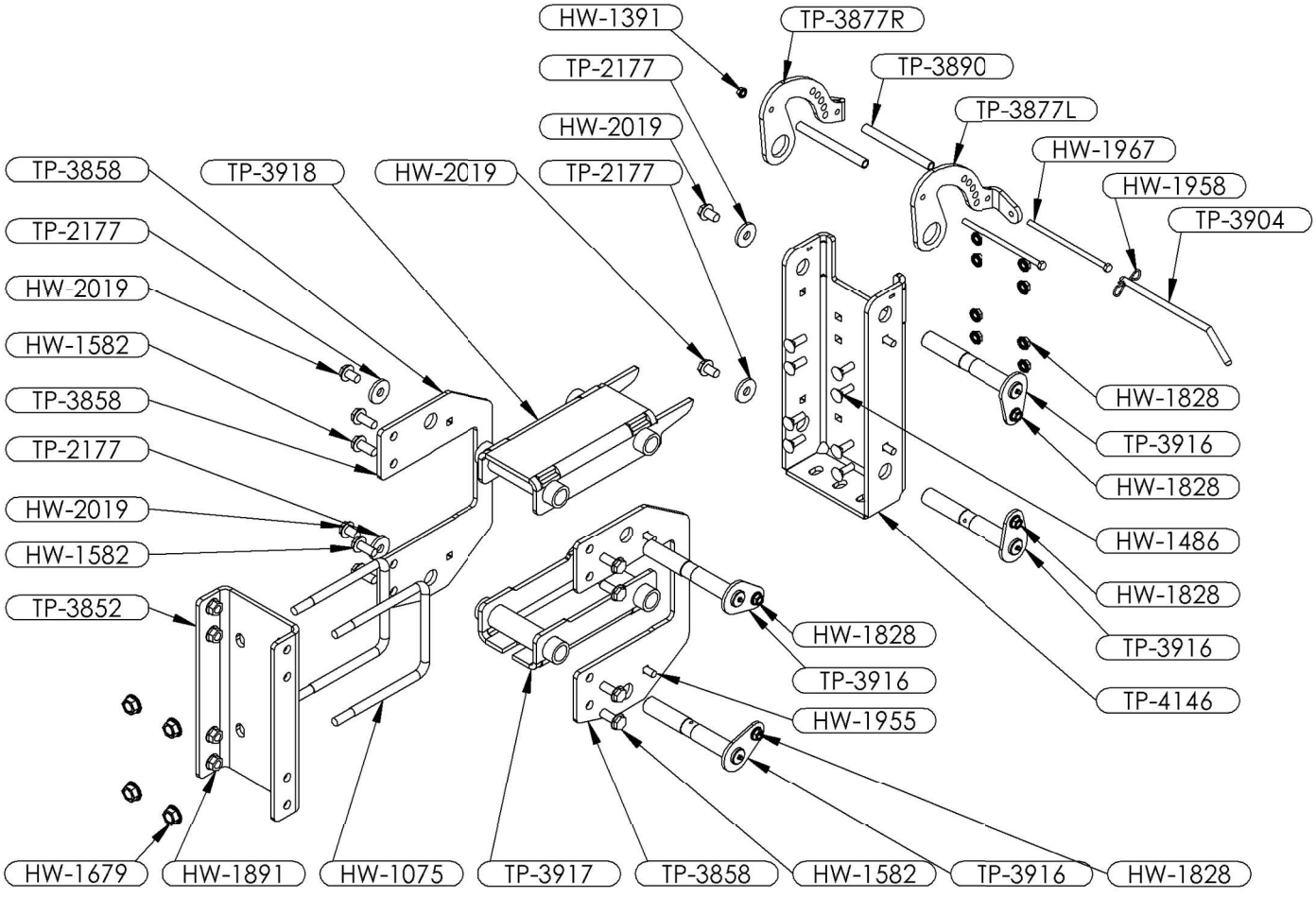
# FLAT COULTER ASSEMBLY PARTS

| PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|
| GE-1040 | PA PIVOT BUSHING | 1 |
| HW-1093 | 3/4"-10 X 6-1/2" GR5 ZF HCS | 1 |
| HW-1127 | 5/8-11 " X 2" GR5 ZF HCS | 2 |
| HW-1177 | 3/4"-10 X 10" GR5 ZF HCS | 1 |
| HW-1251 | 1/2"-20 X 1-3/4" GR5 ZF HCS | 4 |
| HW-1676 | 5/8"-11 X 1-3/4" GR5 RH ZF CB | 7 |
| HW-1679 | 3/4" NC NUT, SERRATED FLANGE | 1 |
| HW-1891 | 5/8"-11 ZF SERRATED FN | 9 |
| HW-2345 | 3/4"-10 GrF ZF FLANGE TOP LN | 1 |
| HW-2446 | FLAT COULTER, 24" DIA 6.5 MM. 4 BOLT X 5" BOLT CIRCLE | 1 |
| HW-2466 | 1/2 NF SERRATED FLANGE NUT | 4 |
| TP-2283 | BACKING PLATE, FOR FLAT COULTER | 1 |
| TP-2943 | FLAT COULTER HUB | 1 |
| TP-4687 | FC & WC EXTERNAL HUB SPACER | 2 |
| TP-4966 | HD FC MOUNT | 1 |
| TP-4967L | Default | 1 |
| TP-4967R | FC FORK PLATE | 1 |



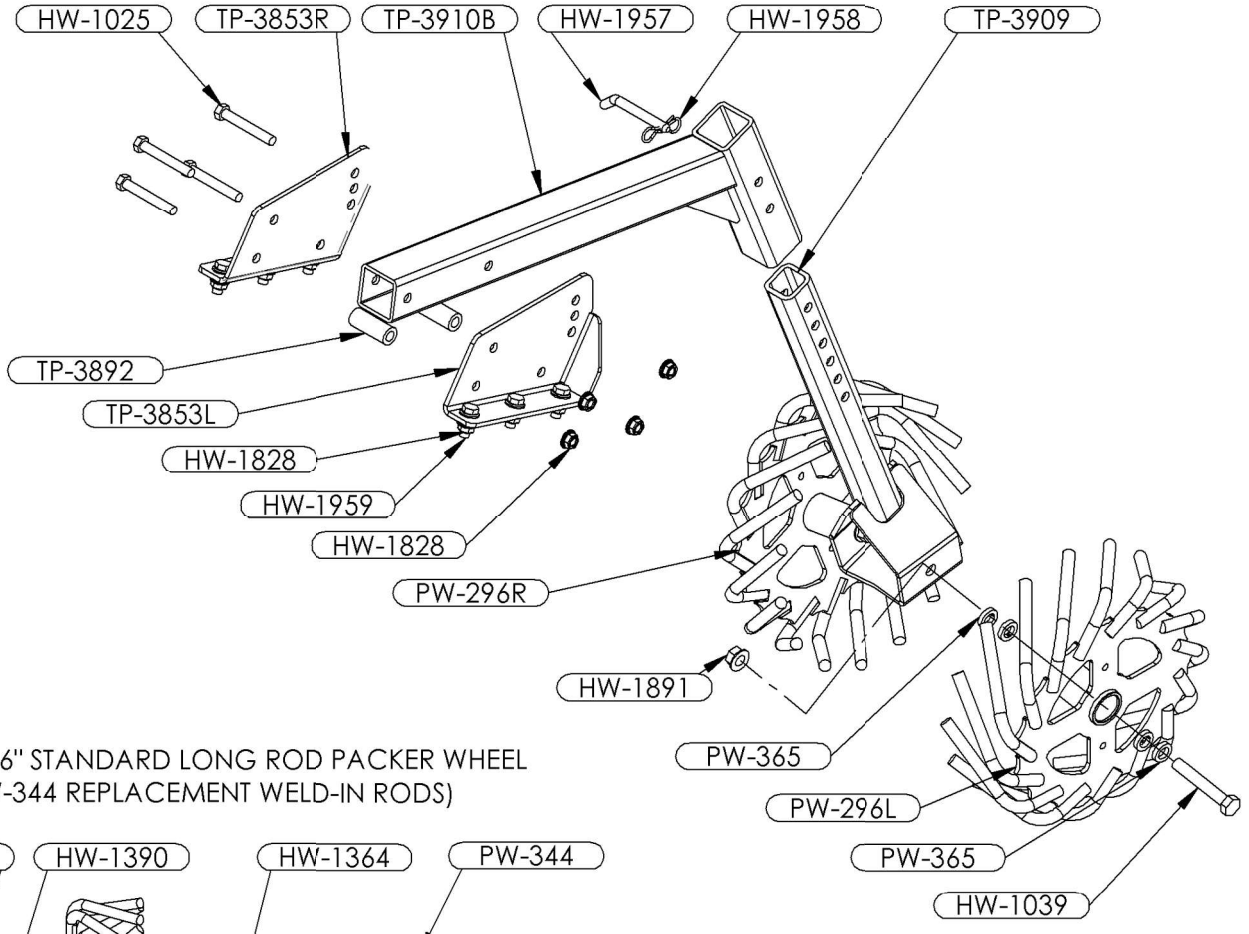
# PARALELL LINKAGE ASSEMBLY PARTS

| PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|
| HW-1075 | 3/4" X 7" X 7" U-BOLT, NC, PLATED | 2 |
| HW-1391 | 3/8"-16 ZF HARDENED SFN | 2 |
| HW-1486 | 1/2"-13 X 1-1/2" GR5 RH ZF CB | 8 |
| HW-1582 | 5/8"-11 X 1-1/2" HH ZF SS FB | 8 |
| HW-1679 | 3/4" NC NUT, SERRATED FLANGE | 4 |
| HW-1828 | 1/2"-13 ZF SERRATED FN | 12 |
| HW-1891 | 5/8"-11 ZF SERRATED FN | 8 |
| HW-1955 | 1/2"-13 X 1-1/4" ZF GR5 RH CB | 4 |
| HW-1958 | BOWTIE PIN, 0.120" WIRE, 1/2"-5/8" CAP. | 1 |
| HW-1967 | 3/8"-16 X 8" GR5 ZF HCS | 2 |
| HW-2019 | 5/8"-11 X 1" HH ZF SFB | 4 |
| TP-2177 | 1/4" THICK HEAVY WASHER | 4 |
| TP-3852 | RU FRONT MOUNT BRACKET | 1 |
| TP-3858 | HD UNIT C PLATE | 2 |
| TP-3877L | RU SPRING PRESSURE ADJ. ARM (LEFT) | 1 |
| TP-3877R | RU SPRING PRESSURE ADJ. ARM (RIGHT) | 1 |
| TP-3890 | SPRING ARMS CROSSTUBES | 2 |
| TP-3904 | SPRING PRESSURE ADJUSTING ROD | 1 |
| TP-3916 | WELDMENT, PIVOT PIN | 4 |
| TP-3917 | WELDMENT: LOWER PARALLEL ARM | 1 |
| TP-3918 | WELDMENT: TOP PARALLEL ARM | 1 |
| TP-4146 | RU BODY FRONT PLATE | 1 |

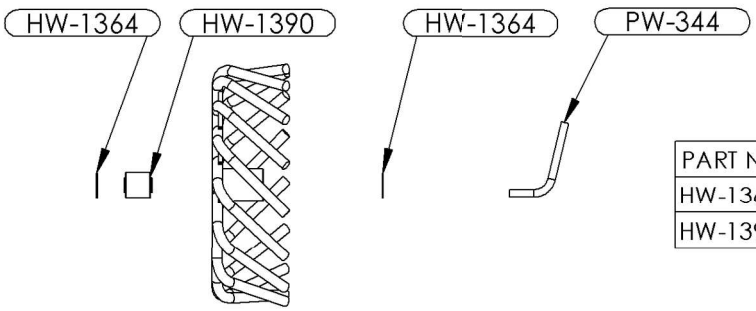


# DUAL WHEEL PACKER ASSEMBLY

| PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|
| HW-1025 | 1/2"-13 X 3-1/2" GR5 ZF HCS | 4 |
| HW-1039 | 5/8"11 X 4" GR5 ZF HCS | 2 |
| HW-1828 | 1/2"-13 ZF SERRATED FN | 10 |
| HW-1891 | 5/8"-11 ZF SERRATED FN | 2 |
| HW-1957 | BENT PIN, 1/2" X 3" X 45 DEG. | 1 |
| HW-1958 | BOWTIE PIN, 0.120" WIRE, 1/2"-5/8" CAP. | 1 |
| HW-1959 | 1/2"-13 X 1-1/4" HH ZF SS FB | 6 |
| PW-296L | 16" LONG-ROD PACKER WHEEL LEFT WHEEL ASSY | 1 |
| PW-296R | 16" LONG-ROD PACKER WHEEL RIGHT WHEEL ASSY | 1 |
| PW-365 | 1/4" SPACER | 8 |
| TP-3853L | DWP MOUNT BRACKET (LEFT) | 1 |
| TP-3853R | DWP MOUNT BRACKET (RIGHT) | 1 |
| TP-3892 | DWP BRACKET SPACER | 2 |
| TP-3909 | DWP MOUNT ARM | 1 |
| TP-3910B | WELDMENT: PACKER TOP ARM | 1 |



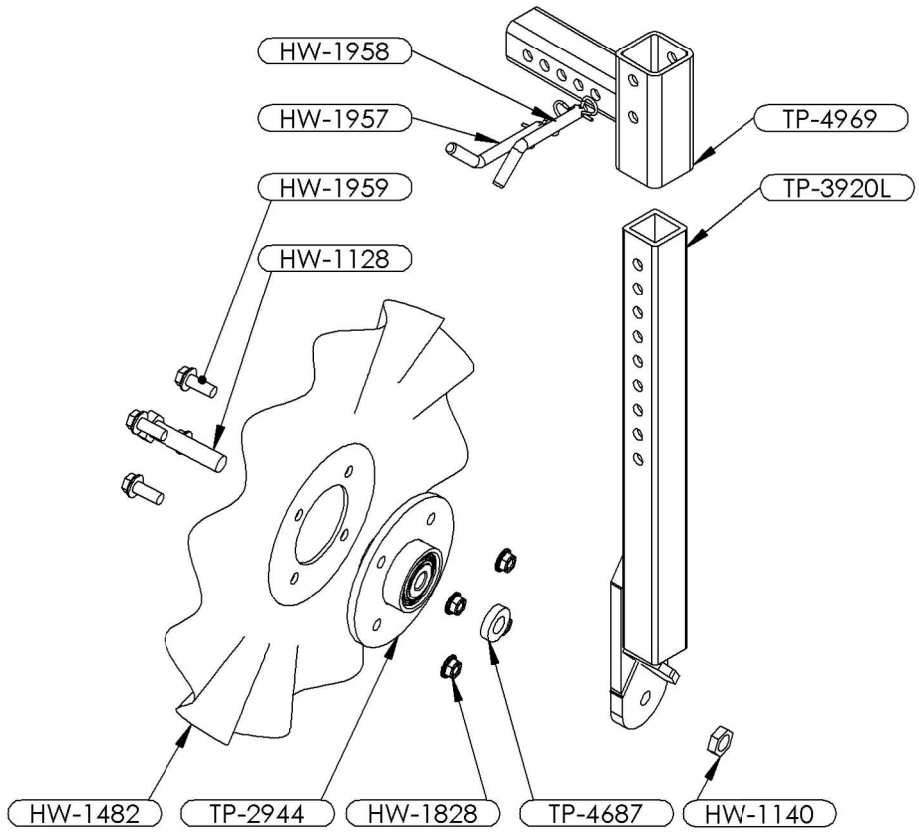

PW-296 16" STANDARD LONG ROD PACKER WHEEL
(PW-344 REPLACEMENT WELD-IN RODS)

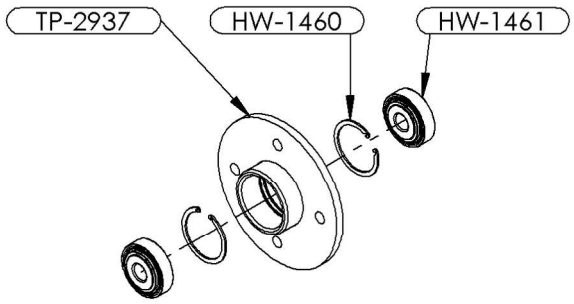



| PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|
| HW-1364 | SNAP RING, 1-9/16" INTERNAL X .062" | 2 |
| HW-1390 | BEARING | 1 |

# WAVY COULTER ASSEMBLY

| PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|
| HW-1128 | 3/4"-10 X 3-1/2" GR5 ZF HCS | 1 |
| HW-1140 | 3/4"-10 GRA ZF JAM NUT | 1 |
| HW-1482 | 20" WAVY COULTER | 1 |
| HW-1828 | 1/2"-13 ZF SERRATED FN | 4 |
| HW-1957 | BENT PIN, 1/2" X 3" X 45 DEG. | 2 |
| HW-1958 | BOWTIE PIN, 0.120" WIRE, 1/2"-5/8" CAP. | 2 |
| HW-1959 | 1/2"-13 X 1-1/4" HH ZF SS FB | 4 |
| TP-2944 | WAVY COULTER HUB ASSEMBLY | 1 |
| TP-3920L | WC MOUNT ARM | 1 |
| TP-4687 | HUB SPACER | 1 |
| TP-4969 | WC MOUNT BRACKET | 1 |

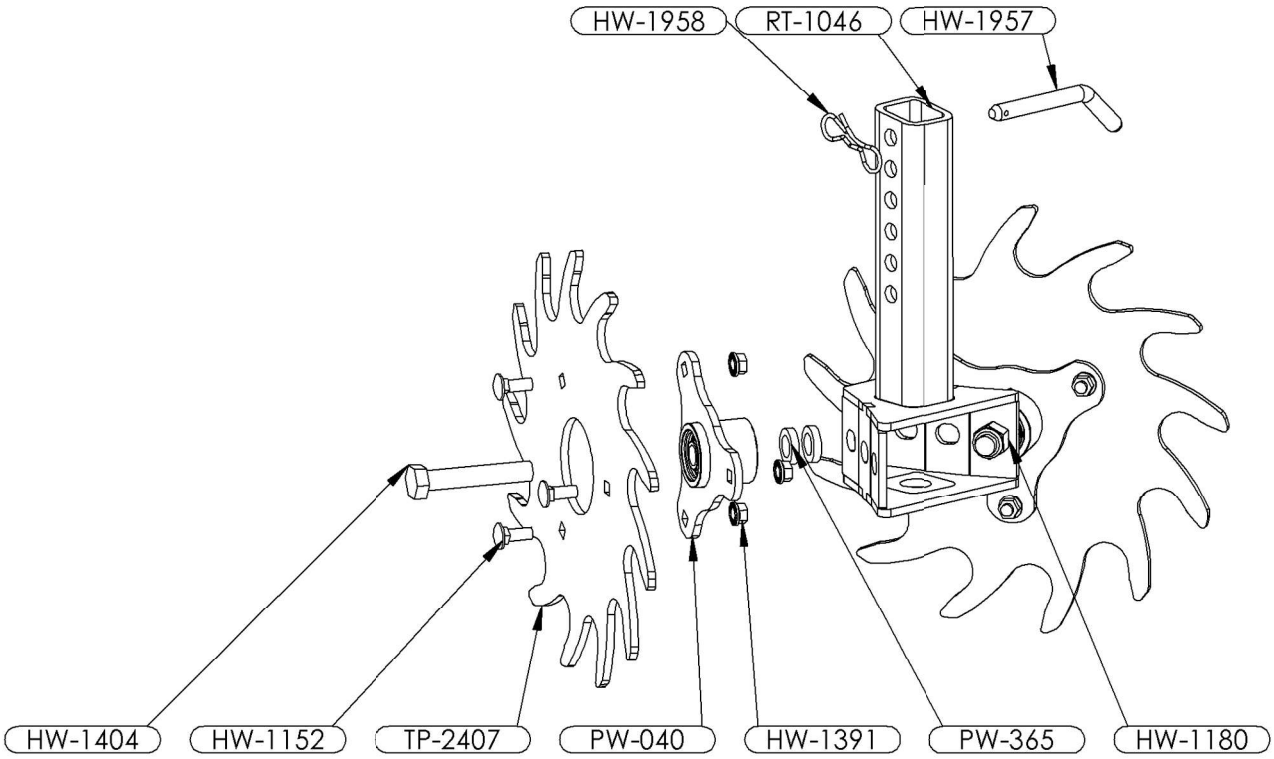


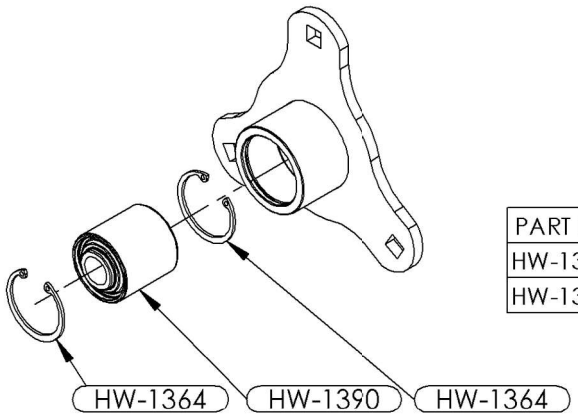




| PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|
| HW-1460 | SNAP RING, 2.33" INTERNAL | 2 |
| HW-1461 | BEARING | 2 |
| TP-2937 | WELDMENT, WAVY COULTER HUB | 1 |

# ROW CLEANER ASSEMBLY

| PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|
| HW-1152 | 3/8"-16 X 1" GR5 ZF RH CB | 6 |
| HW-1180 | 5/8"-11 GR2 ZF NYLON INSERT LN | 2 |
| HW-1391 | 3/8"-16 ZF HARDENED SFN | 6 |
| HW-1404 | 5/8"-11 X 3-1/2" GR5 ZF HCS | 2 |
| HW-1957 | BENT PIN, 1/2" X 3" X 45 DEG. | 1 |
| HW-1958 | BOWTIE PIN, 0.120" WIRE, 1/2"-5/8" CAP. | 1 |
| PW-040 | PW/RZC WHEEL HUB (PW-236 & 040) | 2 |
| PW-365 | 1/4" SPACER | 4 |
| RT-1046 | ROW CLEANER STEM | 1 |
| TP-2407 | 13.5" ROW CLEANER WHEEL, T-1 PLATE | 2 |




| PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|
| HW-1364 | SNAP RING, 1-9/16" INTERNAL X .062" | 2 |
| HW-1390 | BEARING | 1 |

# INFORMATION REGARDING RAPID TILL HD

## NOTICE

Under all circumstances, these three things are necessary for the Rapid Till HD to work properly:

1. Flat coulter must cut all crop residue to prevent plugging.
2. Shanks must be set deep enough to break compaction.
3. The groove left by the shanks must be closed by the wavy coulters.

## PREPARING THE RAPID TILL HD TRACTOR

The tractor must have a 3 point hitch in good working order. Duals on the tractor are highly recommended. Front weights may be required. The number of front weights will vary with tractor size and type, but usually the maximum number is best.

Tire settings should be as close as possible to two (2) times the row width. For example: for 30" row spacing, you would set the front tires and inside duals at 60" and the outside duals at 120" . Tires must be set the same from side to side and centered on the tractor. Make sure to set the toe-in of the front tires to manufacturer's recommended specifications. Tire pressures should be equal for all rear tires.

The majority of Rapid Till HD machines with 3-point style hitch have a category 3 hitch. Some are both category 3 & 4. A quick coupler is highly recommended. Sway blocks should be set with minimum amount of free travel. If more than 3/16" of total side play is present, you may have to shim up the sway blocks or 3 point arms.

When a 3-point planter is to be used, the tractors sway block side-to-side clearances and 3-point arm to quick coupler side-to-side clearances need to be as tight as possible.

Side-to-side clearance between quick coupler and Rapid Till HD 3 point hitch plates should be as small as possible.

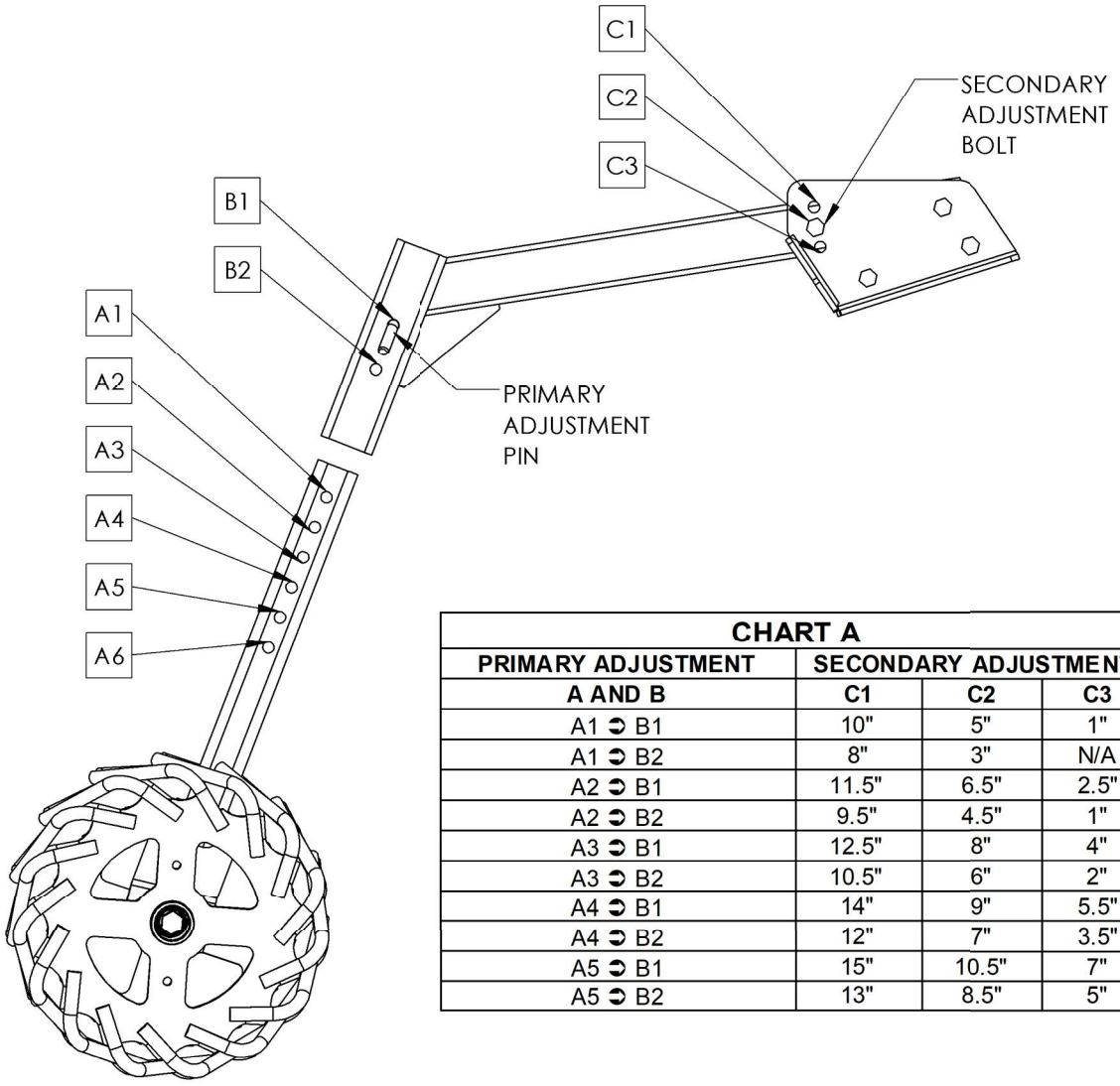
For tractors without quick coupler, 3 point pin spacers are required. The spacers should take up any side to side movement of the tractor 3 point arms on the Rapid Till HD 3 point pins.

# ADJUSTING RAPID TILL HD

## SETTING ROW UNIT DEPTH

Row unit depth is set by making adjustments to the dual wheel packers on the back of the row unit, (Shown in the drawing below). This adjustment is made using the pin (primary adjustment) or the bolt (secondary adjustment) on the rear of each row unit. Refer to the chart A for approximate shank depth settings.

If you are having problems setting your machine to the proper depth, give us a call and we will to assist you in getting your Rapid Till HD working properly in your conditions.




| CHART A | | | |
|---|---|---|---|
| PRIMARY ADJUSTMENT | SECONDARY ADJUSTMENT | | |
| A AND B | C1 | C2 | C3 |
| A1 ➲ B1 | 10" | 5" | 1" |
| A1 ➲ B2 | 8" | 3" | N/A |
| A2 ➲ B1 | 11.5" | 6.5" | 2.5" |
| A2 ➲ B2 | 9.5" | 4.5" | 1" |
| A3 ➲ B1 | 12.5" | 8" | 4" |
| A3 ➲ B2 | 10.5" | 6" | 2" |
| A4 ➲ B1 | 14" | 9" | 5.5" |
| A4 ➲ B2 | 12" | 7" | 3.5" |
| A5 ➲ B1 | 15" | 10.5" | 7" |
| A5 ➲ B2 | 13" | 8.5" | 5" |

# ADJUSTING RAPID TILL HD

## SETTING MACHINE BAR HEIGHT

Once you have your row units set for depth, you will need to figure out where your main Rapid Till HD bar needs to be set to allow the row unit's parallel linkage to function properly. You want the parallel linkage on your row units to be level or angled so they are slightly lower in the back. (See drawing below)

The bottom of the bar will be approximately 39" off the ground with the parallel linkage level and the points touching the ground. If you are planning on running 10" deep, subtract 10" from 39" and the bottom of the bar should be approximately 29" from the ground. These dimensions are not exact and should be used as reference only.

On a three point Rapid Till HD raise or lower your three point on your tractor to the correct height. If your Rapid Till HD is mounted to a caddy please refer to our Planter Caddy owners manual for adjusting the height of your bar.

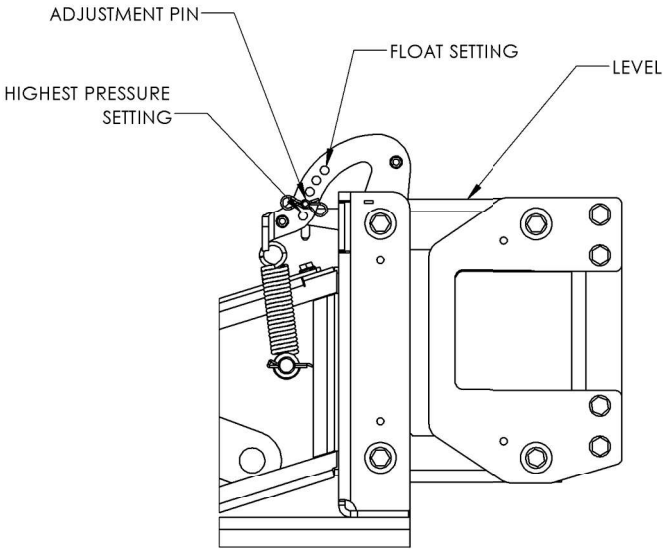
## INDIVIDUAL ROW UNIT SETTINGS

### Unit Down Pressure Adjustment

On the top parallel linkage there are two arms that pivot on the rear linkage pin. These arms have a series of holes in them used to adjust how much weight is transferred from the bar to the units. This adjustment helps push the units into the ground in hard heavy soil, and also works to keep all the row units on the bar at the same depth.

From the factory the adjustment is in the highest down pressure setting. If you are having problems with the row unit going too deep, or is it is constantly pulling the row unit's parallel linkage down to the main bar this will need adjustment. Move the pin up to the set of holes that get the desired amount of pressure transferred from the bar.

NOTE: THIS PIN SHOULD BE ADJUSTED WITH THE MACHINE IN THE RAISED POSITION.

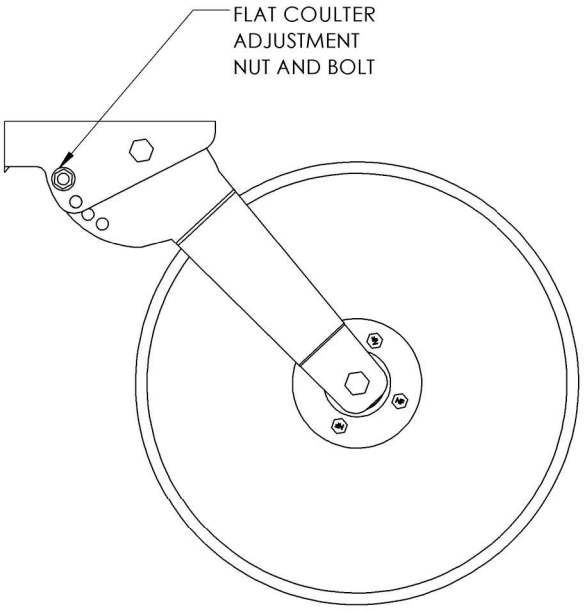


# ADJUSTING RAPID TILL HD

## FLAT COULTER ADJUSTMENT

Flat coulter adjustments are done by removing both the Flat Coulter nut and bolt from either side of the machine. Rotate the Flat Coulter Fork to achieve the desired height. Reinstall the flat coulter nut and bolt on both sides of the machine.

We recommend a running depth of 4 to 5 inches. DO NOT EXCEED 8 1/2 INCHES OF DEPTH. This will cause excessive wear on the Flat Coulter Hub and premature failure.




## Wavy Coulter Adjustment

After the shank goes through the soil it leaves a void or area of loose soil directly behind it. The wavy coulters are designed to pinch the soil back together and remove any air pockets that might have developed as the shank passed through the soil. If your wavy coulters are not set properly this void has the potential to cause serious problems when planting. It is essential that the void behind the shank gets closed.

<u>The wavy coulters should never be set shallower than 4 inches.</u> In most conditions, the wavy coulters work best when run deep and close together. If you are having problems closing the void, then the wavy coulters need to be set deeper, closer together, or both. If you are going to till first and plant at a later date, the more narrow the wavy coulters, the better your planter will follow.

The wavy coulters are adjustable for both depth and width. Angle of the wavy coulters is fixed and should not be altered.

# HYDRAULIC SYSTEMS

Caution: The hydraulic system throughout your machine can be under high pressure even without the tractor running. Use caution when working on the hydraulic system. A high pressure stream of oil can penetrate your skin causing serious injury or death.

Caution: Depressurizing the hydraulic system of your machine without the proper bar stands or cylinder stops in place could cause the machine to drop rapidly. Use caution and make sure that there is no one or nothing under the machine when depressurizing.

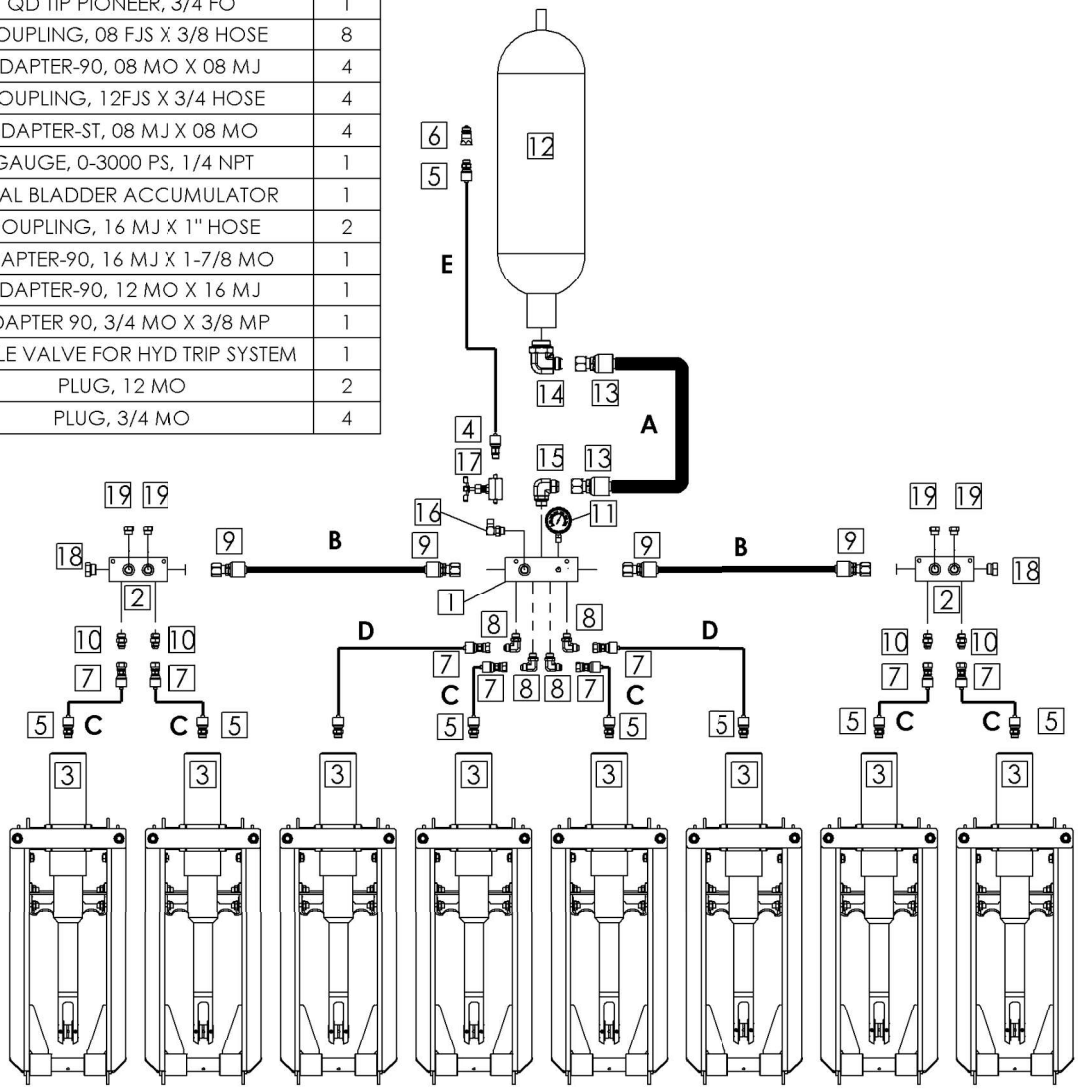
Caution: If the schematics shown on the following pages differ from your actual system, call Schlagel Mfg at 1-888-889-1504 (toll free) before servicing your machine. Under no circumstances should you attempt to service or make changes to any hydraulic system without knowledge of hydraulic components. Also, you should never mix different components of a system. Serious damage can occur.

# HYDRAULIC SYSTEMS

## HYDRAULIC TRIP SYSTEM

| ITEM NO. | PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|---|
| 1 | HT-0035 | Center Manifold Block | 1 |
| 2 | HT-0059 | HYD DISTRIBUTION BLOCK, 6" | 2 |
| 3 | HT-3000 | HYD TRIP CYL & MOUNT ASSEMBLY | 8 |
| 4 | HW-1117 | COUPLING, 3/8 MP X 3/8 HOSE | 1 |
| 5 | HW-1131 | COUPLING, 3/4 MO X 3/8 HOSE | 9 |
| 6 | HW-1259 | QD TIP PIONEER, 3/4 FO | 1 |
| 7 | HW-1723 | COUPLING, 08 FJS X 3/8 HOSE | 8 |
| 8 | HW-1728 | ADAPTER-90, 08 MO X 08 MJ | 4 |
| 9 | HW-1813 | COUPLING, 12FJS X 3/4 HOSE | 4 |
| 10 | HW-1854 | ADAPTER-ST, 08 MJ X 08 MO | 4 |
| 11 | HW-2067 | GAUGE, 0-3000 PS, 1/4 NPT | 1 |
| 12 | HW-2205 | 5 GAL BLADDER ACCUMULATOR | 1 |
| 13 | HW-2210 | COUPLING, 16 MJ X 1" HOSE | 2 |
| 14 | HW-2212 | ADAPTER-90, 16 MJ X 1-7/8 MO | 1 |
| 15 | HW-2213 | ADAPTER-90, 12 MO X 16 MJ | 1 |
| 16 | HW-2214 | ADAPTER 90, 3/4 MO X 3/8 MP | 1 |
| 17 | HW-2215 | NEEDLE VALVE FOR HYD TRIP SYSTEM | 1 |
| 18 | HW-2216 | PLUG, 12 MO | 2 |
| 19 | HW-2218 | PLUG, 3/4 MO | 4 |

| ITEM NO. | PART NUMBER | DESCRIPTION | LENGTH | QTY. |
|---|---|---|---|---|
| A | HW-2211 | 1" HYD HOSE | 27" | 1 |
| B | HW-1824 | 3/4" HYD HOSE | 47.5 | 2 |
| C | HW-1089 | 3/8" HYD HOSE | 33" | 6 |
| D | HW-1089 | 3/8" HYD HOSE | 58" | 2 |
| E | HW-1089 | 3/8" HYD HOSE | 48" | 1 |




NOTE: This schematic covers the 8 row 30"" Rapid Till HD only. All parts subject to change at any time. For parts call Schlagel Manufacturing at (888) 889-1504.

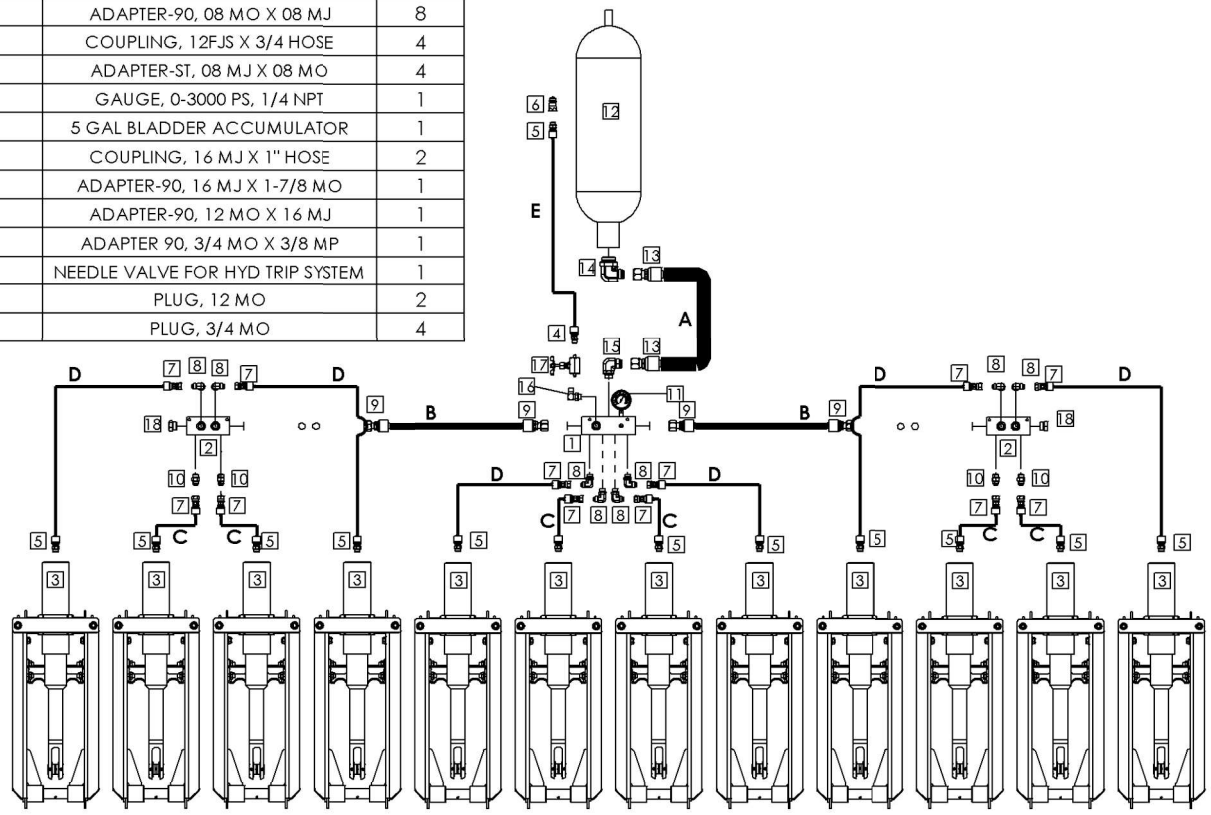
# HYDRAULIC SYSTEMS

## HYDRAULIC TRIP SYSTEM

## 12 ROW 22

| ITEM NO. | PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|---|
| 1 | HT-0035 | Center Manifold Block | 1 |
| 2 | HT-0059 | HYD DISTRIBUTION BLOCK, 6" | 2 |
| 3 | HT-3000 | HYD TRIP CYL & MOUNT ASSEMBLY | 12 |
| 4 | HW-1117 | COUPLING, 3/8 MP X 3/8 HOSE | 1 |
| 5 | HW-1131 | COUPLING, 3/4 MO X 3/8 HOSE | 13 |
| 6 | HW-1259 | QD TIP PIONEER, 3/4 FO | 1 |
| 7 | HW-1723 | COUPLING, 08 FJS X 3/8 HOSE | 12 |
| 8 | HW-1728 | ADAPTER-90, 08 MO X 08 MJ | 8 |
| 9 | HW-1813 | COUPLING, 12FJS X 3/4 HOSE | 4 |
| 10 | HW-1854 | ADAPTER-ST, 08 MJ X 08 MO | 4 |
| 11 | HW-2067 | GAUGE, 0-3000 PS, 1/4 NPT | 1 |
| 12 | HW-2205 | 5 GAL BLADDER ACCUMULATOR | 1 |
| 13 | HW-2210 | COUPLING, 16 MJ X 1" HOSE | 2 |
| 14 | HW-2212 | ADAPTER-90, 16 MJ X 1-7/8 MO | 1 |
| 15 | HW-2213 | ADAPTER-90, 12 MO X 16 MJ | 1 |
| 16 | HW-2214 | ADAPTER 90, 3/4 MO X 3/8 MP | 1 |
| 17 | HW-2215 | NEEDLE VALVE FOR HYD TRIP SYSTEM | 1 |
| 18 | HW-2216 | PLUG, 12 MO | 2 |
| 19 | HW-2218 | PLUG, 3/4 MO | 4 |

| ITEM NO. | PART NUMBER | DISCRIPTION | LENGTH | QTY. |
|---|---|---|---|---|
| A | HW-2211 | 1" HYD. HOSE | 27" | 1 |
| B | HW-1824 | 3/4" HYD. HOSE | 78" | 2 |
| C | HW-1089 | 3/8" HYD HOSE | 26" | 6 |
| D | HW-1089 | 3/8" HYD. HOSE | 44" | 6 |
| E | HW-1089 | 3/8" HYD. HOSE | 48" | 1 |



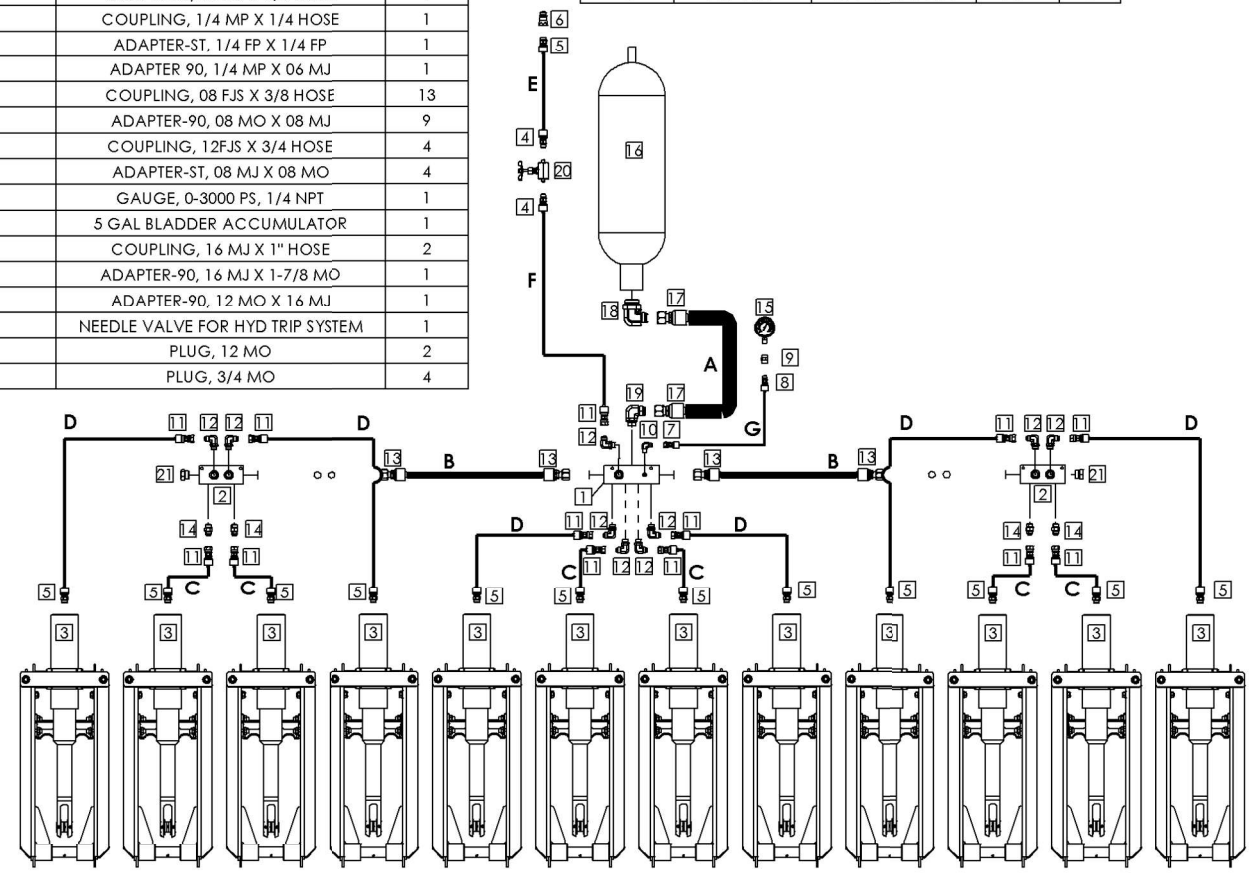

NOTE: This schematic covers the 12 row 22"" Rapid Till HD only. All parts subject to change at any time. For parts call Schlagel Manufacturing at (888) 889-1504.

# HYDRAULIC TRIP SYSTEM

## 12 ROW 30

| ITEM NO. | PART NUMBER | DESCRIPTION | |
|---|---|---|---|
| 1 | HT-0035 | CENTER MANIFOLD BLOCK | 1 |
| 2 | HT-0059 | HYD DISTRIBUTION BLOCK, 6" | 2 |
| 3 | HT-3000 | HYD TRIP CYL & MOUNT ASSEMBLY | 12 |
| 4 | HW-1117 | COUPLING, 3/8 MP X 3/8 HOSE | 2 |
| 5 | HW-1131 | COUPLING, 3/4 MO X 3/8 HOSE | 13 |
| 6 | HW-1259 | QD TIP PIONEER, 3/4 FO | 1 |
| 7 | HW-1276 | COUPLING, 06 FJS X 1/4 HOSE | 1 |
| 8 | HW-1343 | COUPLING, 1/4 MP X 1/4 HOSE | 1 |
| 9 | HW-1508 | ADAPTER-ST, 1/4 FP X 1/4 FP | 1 |
| 10 | HW-1552 | ADAPTER 90, 1/4 MP X 06 MJ | 1 |
| 11 | HW-1723 | COUPLING, 08 FJS X 3/8 HOSE | 13 |
| 12 | HW-1728 | ADAPTER-90, 08 MO X 08 MJ | 9 |
| 13 | HW-1813 | COUPLING, 12FJS X 3/4 HOSE | 4 |
| 14 | HW-1854 | ADAPTER-ST, 08 MJ X 08 MO | 4 |
| 15 | HW-2067 | GAUGE, 0-3000 PS, 1/4 NPT | 1 |
| 16 | HW-2205 | 5 GAL BLADDER ACCUMULATOR | 1 |
| 17 | HW-2210 | COUPLING, 16 MJ X 1" HOSE | 2 |
| 18 | HW-2212 | ADAPTER-90, 16 MJ X 1-7/8 MO | 1 |
| 19 | HW-2213 | ADAPTER-90, 12 MO X 16 MJ | 1 |
| 20 | HW-2215 | NEEDLE VALVE FOR HYD TRIP SYSTEM | 1 |
| 21 | HW-2216 | PLUG, 12 MO | 2 |
| 22 | HW-2218 | PLUG, 3/4 MO | 4 |

| ITEM NO. | PART NUMBER | DISCRIPTION | LENGTH | QTY. |
|---|---|---|---|---|
| A | HW-2211 | 1" HYD. HOSE | 27" | 1 |
| B | HW-1824 | 3/4" HYD. HOSE | 111" | 2 |
| C | HW-1089 | 3/8" HYD HOSE | 33" | 6 |
| D | HW-1089 | 3/8" HYD. HOSE | 58" | 6 |
| E | HW-1089 | 3/8" HYD. HOSE | 36" | 1 |
| F | HW-1089 | 3/8" HYD. HOSE | 138" | 1 |
| G | HW-1197 | 1/4" HYD. HOSE | 24" | 1 |



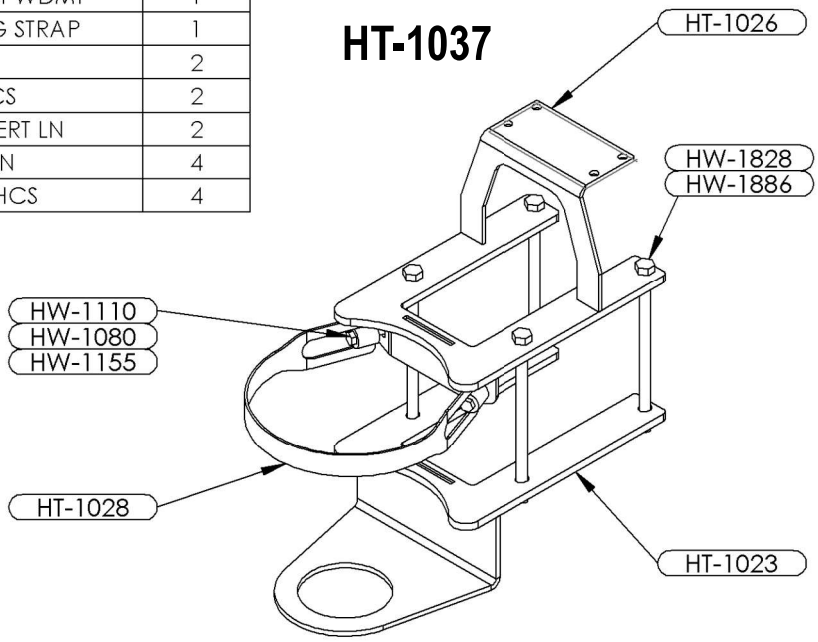
NOTE: This schematic covers the 12 row 30"" Rapid Till HD only. All parts subject to change at any time. For parts call Schlagel Manufacturing at (888) 889-1504.

## HYDRAULIC TRIP SYSTEM

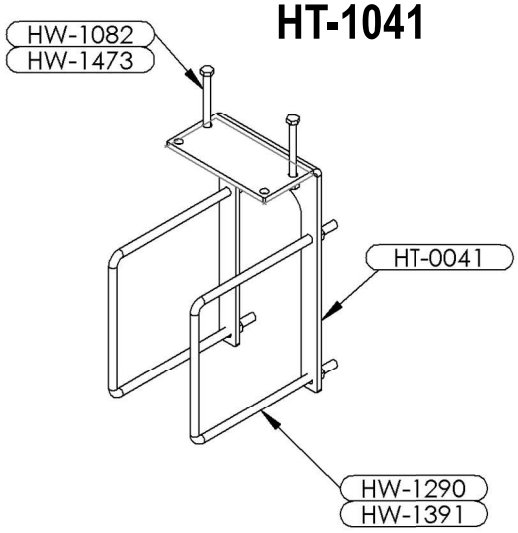
### Mounting hardware

| PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|
| HT-1023 | ACCUMULATOR BOTTOM MOUNT WELDMENT | 1 |
| HT-1026 | ACCUMULATOR TOP MOUNT WDMT | 1 |
| HT-1028 | ACCUMULATOR MOUNTING STRAP | 1 |
| HW-1080 | FLAT WASHER, 3/8" | 2 |
| HW-1110 | 3/8-16" X 3" GR5 ZF HCS | 2 |
| HW-1155 | 3/8"-16 GR2 ZF NYLON INSERT LN | 2 |
| HW-1828 | 1/2"-13 ZF SERRATED FN | 4 |
| HW-1886 | 1/2"-13 X 8-1/2" GR5 ZF HCS | 4 |

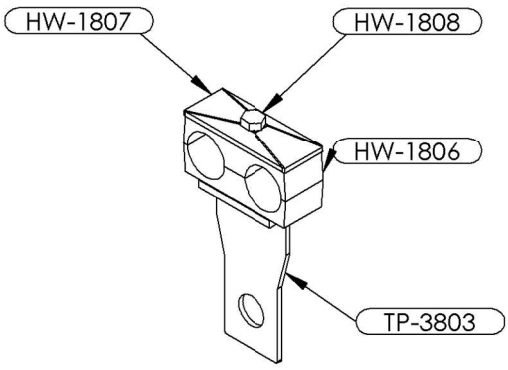
**HT-1037**




**HT-1041**




| PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|
| HT-0041 | HYD TRIP DISTRIBUTION BLOCK MOUNT | 1 |
| HW-1082 | 5/16"-18X 3-1/2" GR5 ZF HCS | 2 |
| HW-1290 | 3/8" X 7" X 7" U-BOLT, NC, PLATED | 2 |
| HW-1391 | 3/8"-16 ZF HARDENED SFN | 4 |
| HW-1473 | 5/16"-18 ZF SFN | 2 |



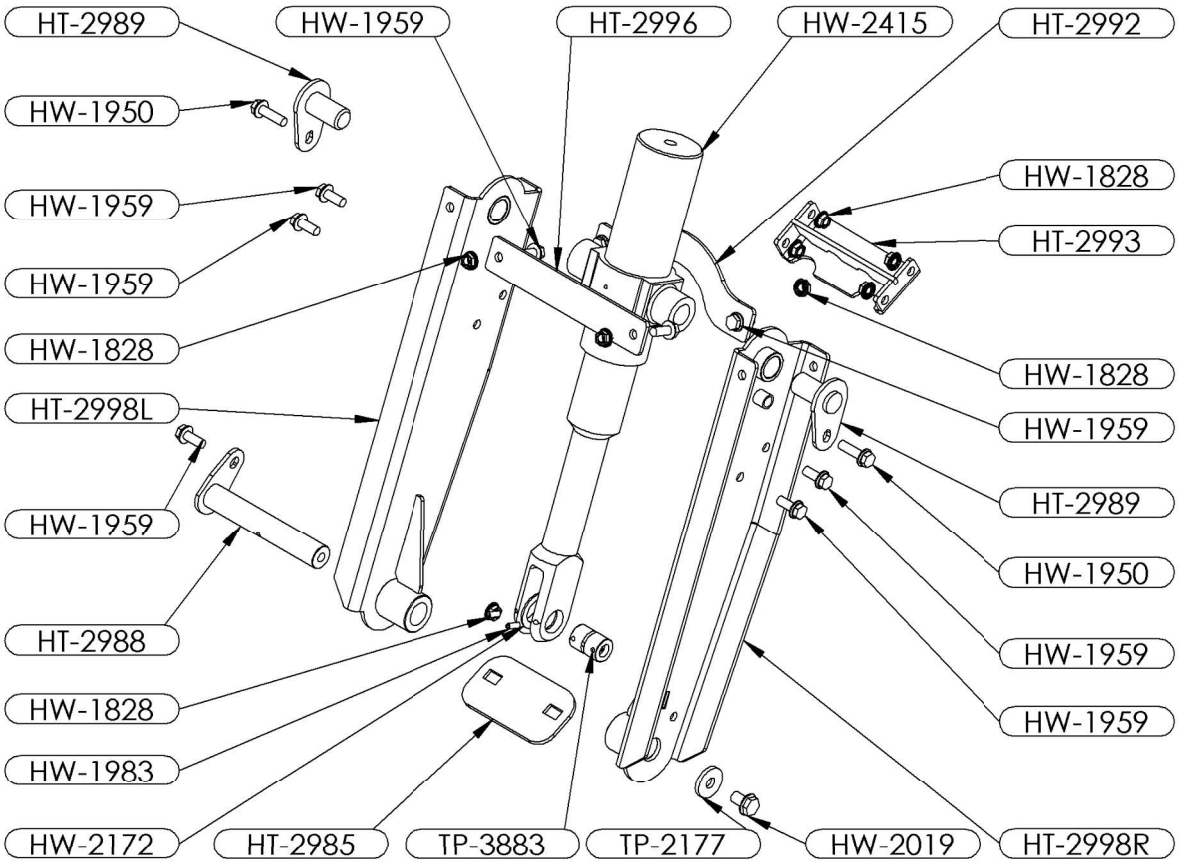

| PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|
| HW-1806 | 3/4" HHK PLASTIC PART | 2 |
| HW-1807 | 3/4" HHK TOP | 1 |
| HW-1808 | 3/4" HHK BOLT | 1 |
| TP-3803 | 3" Hyd Hose Keeper Bracket | 1 |

## HYDRAULIC TRIP SYSTEM

### Hydraulic Trip Cylinder and Mount

| PART NUMBER | DESCRIPTION | QTY. |
|---|---|---|
| HT-2985 | SHANK STABILIZER PLATE 3/4" | 1 |
| HT-2988 | HT SHANK PIVOT PIN | 1 |
| HT-2989 | HT CYLINDER MOUNT PIN WDMT | 2 |
| HT-2992 | HT lower front cross memeber | 1 |
| HT-2993 | HT Lower Rear Cross Member | 1 |
| HT-2996 | HT Upper Crossmember | 1 |
| HT-2998L | CYLINDER SUPPORT BRACKET (L) | 1 |
| HT-2998R | CYLINDER SUPPORT BRACKET (RIGHT) | 1 |
| HW-1828 | 1/2"-13 ZF SERRATED FN | 11 |
| HW-1950 | 1/2"-13 X 1-3/4" HH ZF SS FB | 2 |
| HW-1959 | 1/2"-13 X 1-1/4" HH ZF SS FB | 9 |
| HW-1983 | CONE-POINT SET SCREW, 5/16" X 1" NC | 2 |
| HW-2019 | 5/8"-11 X 1" HH ZF SFB | 1 |
| HW-2172 | MACH BUSHING 1.375" X 2.125" X 12 GA | 2 |
| HW-2415 | L3 X 9 SA/DISP Cylinder | 1 |
| TP-2177 | 1/4" THICK HEAVY WASHER | 1 |
| TP-3883 | PIN & ZERK ASSY | 1 |

**HT-3000**




HT-2985 IS ONLY USED WHEN UPGRADING TP2B OR OLDER UNITS

# TROUBLESHOOTING

| PROBLEM | PROBABLE CAUSE | CORRECTION |
|---|---|---|
| PLUGGING BETWEEN FLAT COULTER AND SHANK | FLAT COULTER NOT DEEP ENOUGH | SET MACHINE TO RUN DEEPER |
| | SHANK NOT DEEP ENOUGH | ADJUSTI THE DUAL WHEEL PACKERS |
| | MACHINE TILLING DEPTH NOT CONSISTANT CAUSED BY MANUALLY RAISING AND LOWERING MACHINE IN TOUGH AREAS | GEAR DOWN TRACTOR AND MAINTAIN CONSISTANT MACHINE TILLING DEPTH |
| | FLAT COULTER NOT ALIGNED WITH SHANK | ALIGN FLAT COULTER WITH SHANK |
| | ROW UNIT NOT PIVOTING ON PARALLEL LINKAGE | GREASE LINKAGE PINS AS REQUIRED |
| | IF RIDGE TILLING, ROW UNIT IS RUNNING OFF TO ONE SIDE OF RIDGE | SEE: MACHINE NOT TRAILING STRAIGHT |
| | RESIDUE BETWEEN ROWS IS WET | ALLOW TO DRY |
| | RESIDUE ON SURFACE IS WET | ALLOW TO DRY |
| | RESIDUE WORKED TOO DEEP INTO GROUND AND IS WET (POSSIBLE FROM DISKING TOO DEEP) | LOWER FLAT COULTERS |
| PLUGGING BETWEEN SHANK AND WAVY COULTER | WAVY COULTERS TOO DEEP | RAISE WAVY COULTERS |
| | WAVY COULTERS TOO CLOSE TOGETHER | ADJUST WAVY COULTERS APART |
| | WAVY COULTER HUB BEARINGS SEIZED OR BAD | REPLACE BEARINGS |
| | IF RIDGE TILLING, ROW UNIT IS RUNNING OFF TO ONE SIDE OF RIDGE | SEE: MACHINE NOT TRAILING STRAIGHT |
| | ROW UNIT NOT PIVOTING ON PARALLEL LINKAGE | GREASE PARALLEL LINKAGE PINS AS REQUIRED |
| GAUGE WHEELS FILLING UP WITH SOIL | TOO MUCH SPRING TENSION ON ROW UNIT | LOOSEN SPRING TENSION<br>REMOVE SPRINGS IN SANDY SOIL |
| | WAVY COULTERS TOO CLOSE TOGETHER | ADJUST WAVY COULTERS APART |
| | TOO WET | ALLOW TO DRY |
| MACHINE NOT TRAILING STRAIGHT | ROW UNITS NOT SQUARE TO BAR | SQUARE UP UNITS TO BAR |
| | LOOSE 3-POINT HITCH ARMS | REMOVE SLACK IN TRACTOR'S 3-POINT SWAY BLOCKS |
| | EXCESSIVE SPACE BETWEEN 3-POINT QUICK COUPLER AND MACHINES 3-POINT PLATES | ADD SPACERS BETWEEN 3-POINT QUICK COUPLER AND MACHINES 3-POINT PLATES |
| | TRACTORTIRE PRESSURES NOT EQUAL OR TOO LOW | PUT ADEQUATE AND EQUAL PRESSURES IN TIRES |
| | TRACTOR TIRES NOT SET TO CORRECT SPACING | ADJUST TRACTOR TIRE SPACING |
| | FIELD NOT UNIFORM | |
| | IRRIGATION FURROWS NOT CENTERED | |
| | FLAT COUTLER NOT ALIGNED PROPERLY | ALIGN FLAT COULTER |
| | UNEVEN SETTINGS ON UNITS | SEE SETTINGS PAGE |
| | ROW UNIT NOT PIVOTING ON PARALLEL LINKAGE | GREASE LINKAGE PINS AS REQUIRED |
| | WIDTH BETWEEN GAUGE WHEELS SET INCORRECTLY ALLOWING WHEEL TO RIDE ON SIDE OF SHANK GROOVE | ADJUST GAUGE WHEELS |
| | LIFT ARMS ON TRACTOR NOT EQUAL LENGHTS | ADJUST TRACTOR LINKAGE |

# TROUBLESHOOTING

| PROBLEM | PROBABLE CAUSE | CORRECTION |
|---|---|---|
| MACHINE NOT PENETRATING INTO SOIL | FLAT COUTLERS TOO DEEP (HOLDING UP UNIT) | RAISE FLAT COULTERS |
| | SHANK DEPTH SET TOO SHALLOW | LOWER UNIT |
| | INSUFFICIENT SPRING TENSION ON ROW UNITS | INCREASE SPRING TENSION |
| | GAUGE WHEELS TOO LOW | RAISE GAUGE WHEELS |
| | POINTS WORN EXCESSIVELY | REPLACE POINTS |
| | LIGHT PACKER SET TOO LOW | RAISE LIGHT PACKER |
| | ROW UNIT NOT PIVOTING ON PARALLEL ARM | GREASE LINKAGE PINS AS REQUIRED |
| | TRACTOR 3-POINT CONTROLS NOT SET TO ALLOW LINKAGE TO BE LOWERED FAR ENOUGH | ADJUST 3-POINT CONTROLS |
| | WAVY COULTERS ARE OUTSIDE OF SHANK TRAIL HOLDING UP MACHINE | MOVE WAVY COULTERS INWARD |
| | SOIL TOO DRY | IRRIGATE |
| GROOVE BEHIND SHANK NOT CLOSING PROPERLY | WAVY COULTERS NOT DEEP ENOUGH | LOWER WAVY COULTERS |
| | WAVY COULTERS SET TOO FAR AWAY FROM SHANK GROOVE | MOVE WAVY COULTERS CLOSER TO SHANK GROOVE |
| | WAVY COULTERS SET TOO CLOSE TOGETHER | MOVE WAVY COULTERS APART |
| | DRIVING TOO SLOW | SPEED UP |
| | SOIL TOO DRY | IRRIGATE |
| | SOIL STRUCTURE RUINED FROM COMPACTION (POSSIBLY DUE TO PREVIOUS IMPLEMENT BEING USED UNDER EXCESSIVELY WET SOIL CONDITIONS) | ELIMINATE TILLAGE WITH OTHER IMPLEMENTS |
| PLANTER TRACTOR NOT FOLLOWING CORRECTLY BEHIND RAPID TILL HD | PLANTER BAR HEIGHT SET INCORECTLY | ADJUST PLANTER BAR SO THAT PARALLEL LINKAGES ON THE PLANER ARE LEVEL OR SLIGHTLY LOWER IN BACK |
| | PLANTER DRIVE TIRES NOT EQUAL DISTANCE FROM CENTER | ADJUST PLANTER DRIVE TIRES TO EQUAL DISTANCE FROM CENTER |
| | WRONG STYLE OF TIRES ON FRONT OF PLANTER TRACTOR | PUT SINGLE RIB TIRES ON PLANTER TRACTOR |
| | WRONG STYLE OF TIRES ON PLANTER | PUT SINGLE RIB TIRES ON PLANTER |
| | PLANTING IN SAME DIRECTION AS TILL-N-PLANT | PLANT IN OPPOSITE DIRECTION AS TILL-N-PLANT |
| | PULL TYPE PLANTERS TEND TO NOT PULL STRAIGHT | ADJUST TRACTOR DRAWBAR TO COMPENSATE FOR SIDE PULL |
| | TRACTOR TIRE PRESSURE SET INCORRECTLY | ADJUST TRACTOR TIRE PRESSURE SO IT IS EQUAL ON BOTH SIDES. INSIDE AND OUTSIDE DUALS MAY REQUIRE DIFFERENT TIRE PRESSURES. |
| ROW UNITS NOT FLOATING | PARALLEL LINKAGE STICKING | GREASE LINKAGE PINS AS REQUIRED |
| | BAR HEIGHT NOT SET CORRECTLY WHEN COMPARED TO SHANK DEPTH | SET BAR HEIGHT SO PARALLEL LINKAGE IS ANGLE SLIGHTLY TOWARDS THE BACK WHEN AT OPERATING DEPTH. |

# PREPARATION AND STORAGE

## PRE-SEASON

- Review safety precautions in this manual.
- If your Rapid Till HD needs new points now or will need points soon, order them early to ensure you receive them in time.
- Check the machine over for material defects and cracks, especially near weld joints. If there are any faults, repair or replace parts before operating the machine.
- Check all bearings on flat and wavy coulters and replace if not in good operating condition.
- Check all bolts, nuts, lock washers, flat washers, roll pins, cotter pins, etc. for being worn, loose or cracked and replace or tighten as needed.
- Use the "Lubrication" section of this manual to thoroughly lubricate your Rapid Till HD.
- Carefully check hydraulic hoses, quick connect couplers, hose adapters, fittings, cylinders and cylinder mounting pins for cracks, leaks, looseness, etc. and replace or tighten as needed.
- Cycle all hydraulics several times. Be sure people and pets are out of the way of moving parts. Also make sure there is enough clearance to lower and raise the components and machine. Recheck all hydraulic hoses, quick connect couplers, hose adapters, fittings, and cylinders for leaks. Repair as needed.
- If you have any electrical components such as working lights or flashers, check that the wiring and connections are in good condition and well insulated. Secure any loose wiring out of the way of moving parts.

## POST-SEASON

- Remove any trash and debris from machine
- Wash all soil and excess grease that has accumulated on the machine with pressurized water if available.
- Remove all rust and repaint areas where paint has been removed.
- Loosen tension on row unit and marker springs.
- Lubricate the machine and apply grease to all adjustment bolt threads.
- Raise gauge wheels off the ground.
- Make list of parts that need replacing for next season and order them early.
- Make any needed repairs and replace any damaged or worn parts.