SCHLAGEL

Rapid Till
Operator's Manual

For RT-1000 Rapid Till Row Unit

Rev 2020

RAPID TILL
RT-1000
OPERATOR'S MANUAL

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

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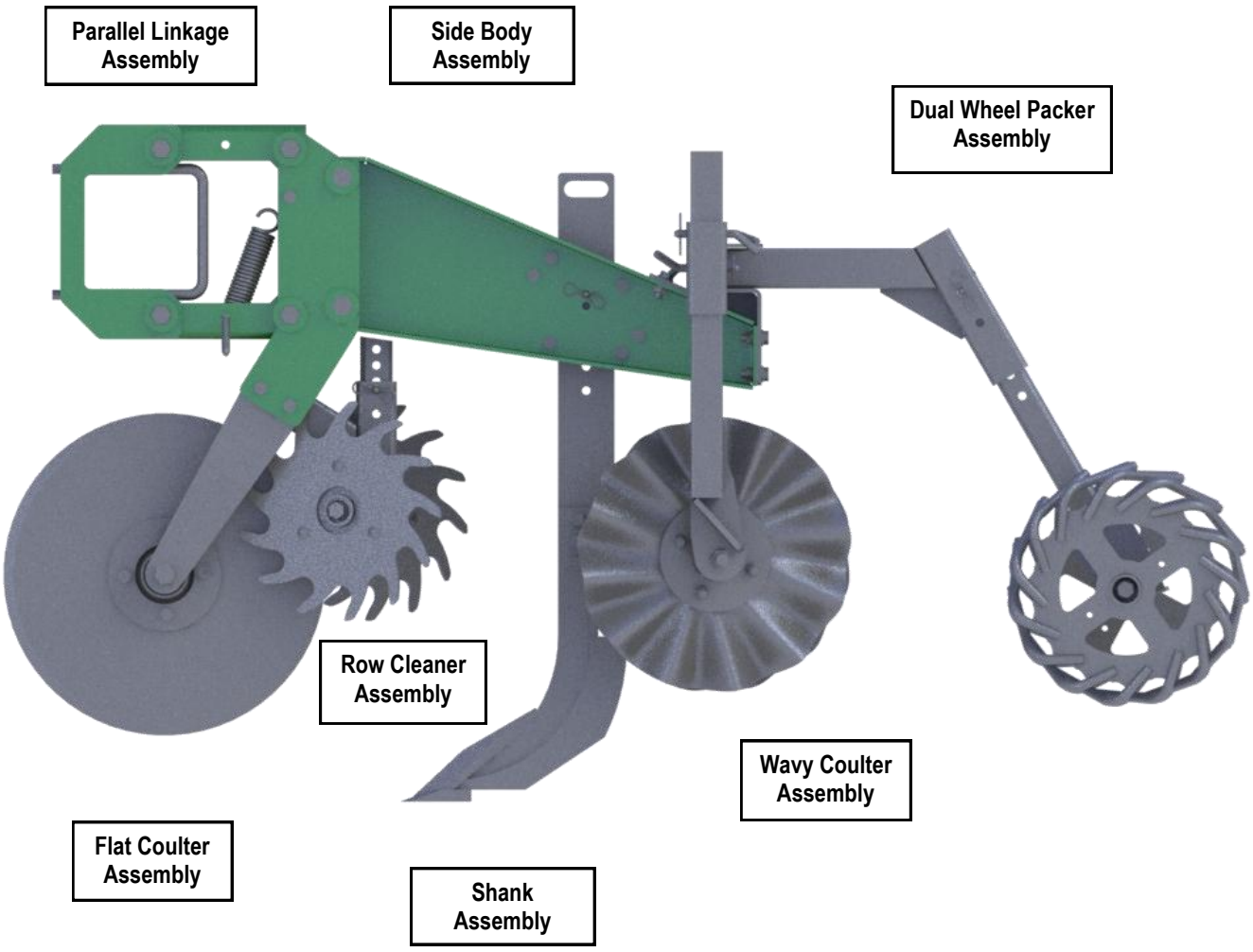
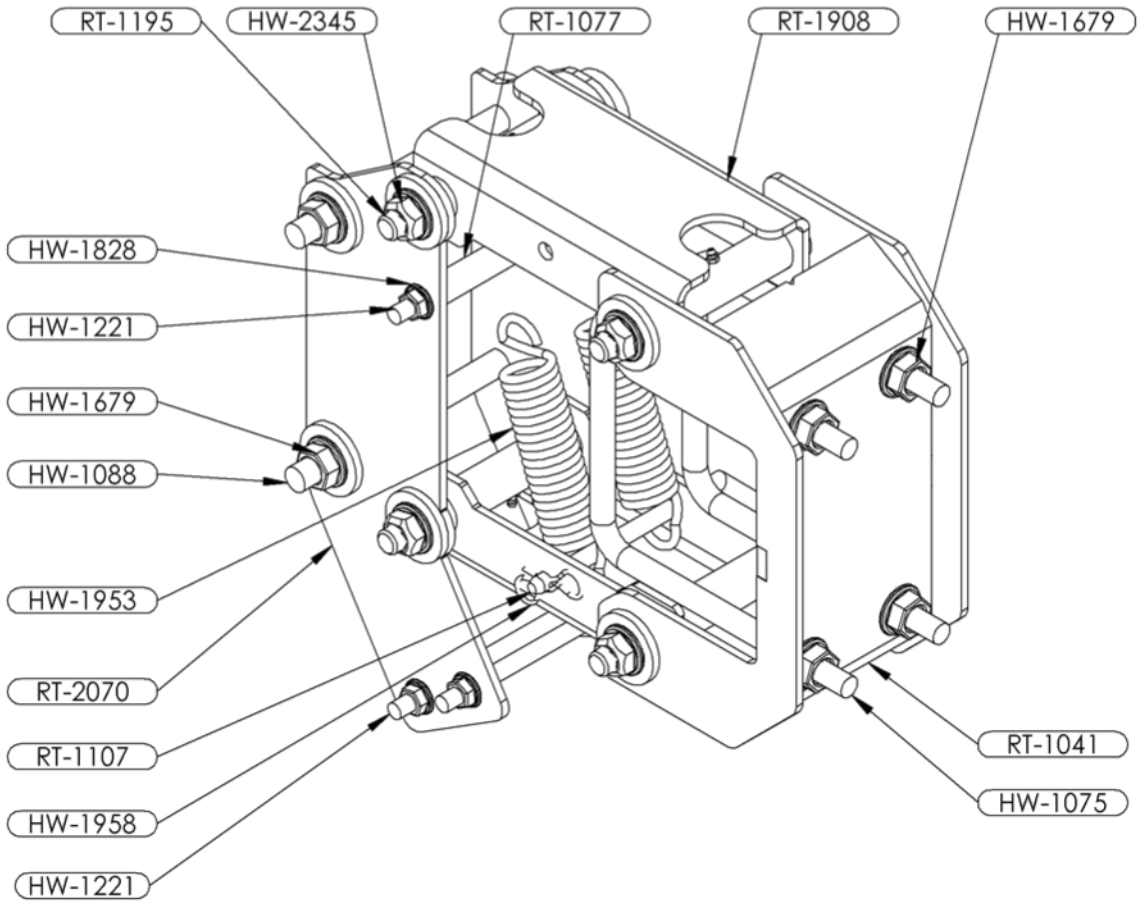
RAPID TILL ROW UNIT COMMON ASSEMBLIES



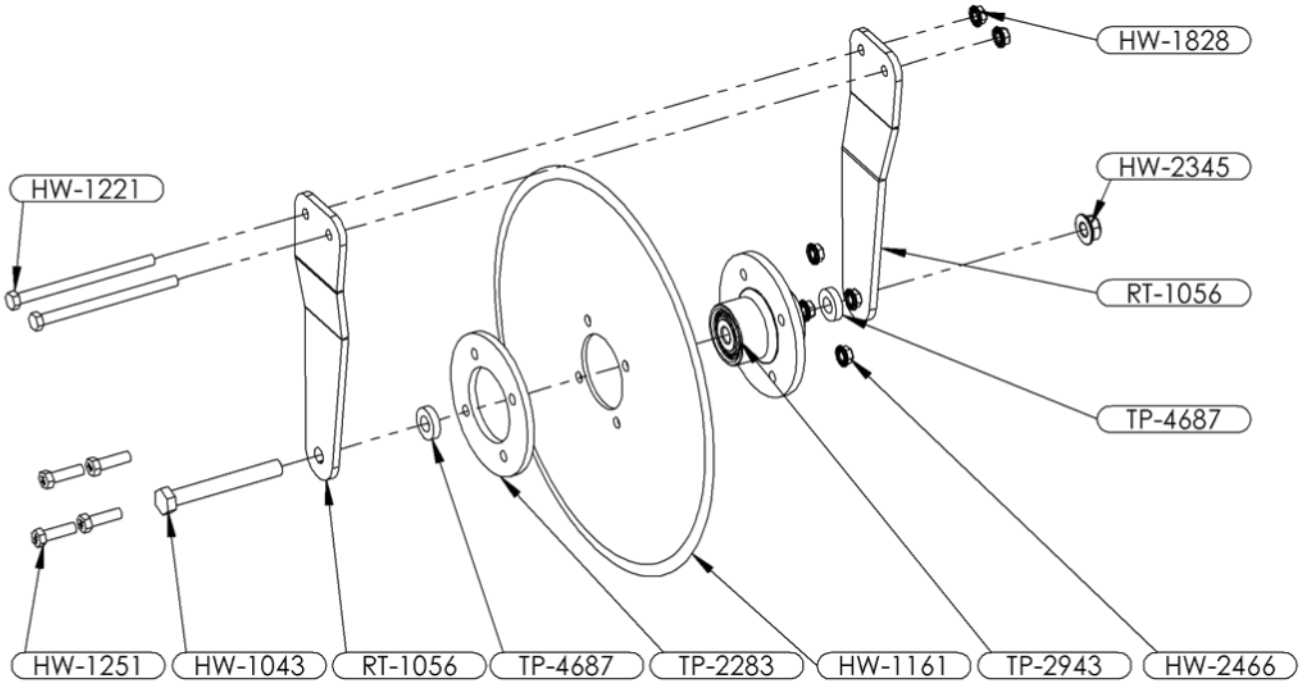
PARALELL LINKAGE ASSEMBLY

PART NUMBER	DESCRIPTION	QTY.
HW-1075	3/4" X 7" X 7" U-BOLT, NC, PLATED	2
HW-1088	3/4"-10 X 8" GR5 ZF HCS	2
HW-1221	1/2"-13 X 7-1/2" GR5 ZF HCS	3
HW-1679	3/4" NC NUT, SERRATED FLANGE	6
HW-1828	1/2"-13 ZF SERRATED FN	3
HW-1953	DOWN PRESSURE SPRING	2
HW-1958	BOWTIE PIN, 0.120" WIRE, 1/2"-5/8" CAP.	1
HW-2345	3/4"-10 GrF ZF FLANGE TOP LN	4
RT-1041	RT HEAD	1
RT-1077	SPRING TOP MOUNT TUBE	1
RT-1107	SPRING PRESSURE ADJUSTING ROD	1
RT-1195	PARALLEL ARM PIN	4
RT-1908	PARALLEL ARM	2
RT-2070	FLAT COULTER MOUNT FORK PAIR	1

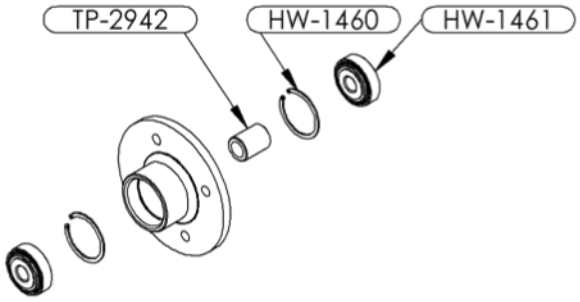


FLAT COULTER ASSEMBLY

PART NUMBER	DESCRIPTION	QTY.
HW-1043	3/4"-10 X 6" GR5 ZF HCS	1
HW-1161	FLAT COULTER, 20" DIA.	1
HW-1221	1/2"-13 X 7-1/2" GR5 ZF HCS	2
HW-1251	1/2"-20 X 1-3/4" GR5 ZF HCS	4
HW-1828	1/2"-13 ZF SERRATED FN	2
HW-2345	3/4"-10 GrF ZF FLANGE TOP LN	1
HW-2466	1/2 NF SERRATED FLANGE NUT	4
RT-1056	FLAT COULTER FORK	2
TP-2283	BACKING PLATE	1
TP-2943	FLAT COULTER HUB	1
TP-4687	FC & WC EXTERNAL HUB SPACER	2

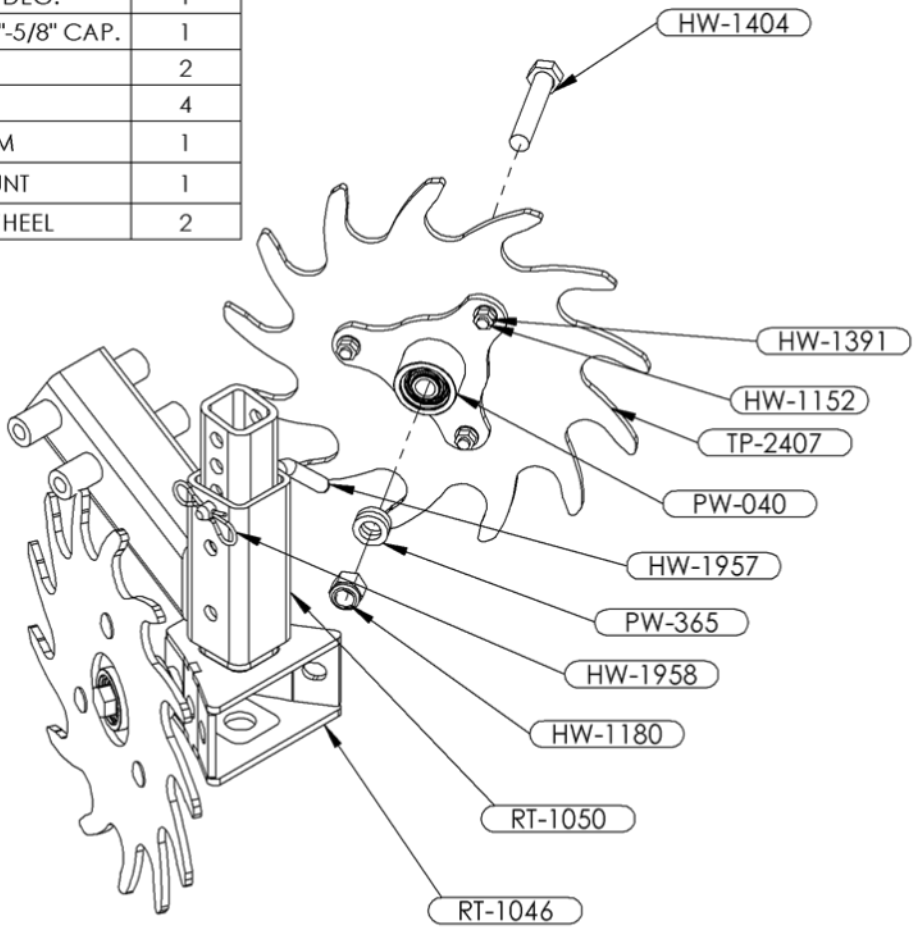


PART NUMBER	DESCRIPTION	QTY.
HW-1460	SNAP RING, 2.33" INTERNAL	2
HW-1461	BEARING	2
TP-2942	SPACER, FLAT COULTER HUB	1



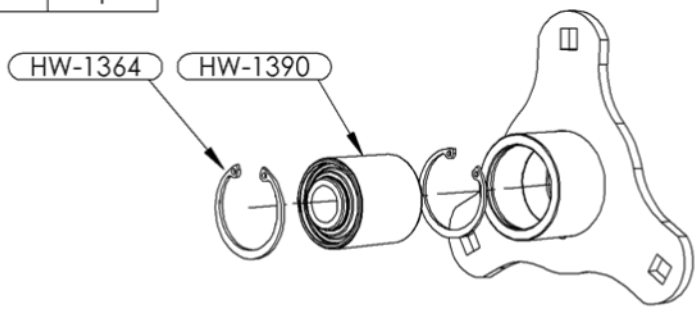
ROW CLEANER ASSEMBLY

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	3-BOLT HUB	2
PW-365	1/4" SPACER	4
RT-1046	ROW CLEANER STEM	1
RT-1050	ROW CLEANER MOUNT	1
TP-2407	13.5" ROW CLEANER WHEEL	2



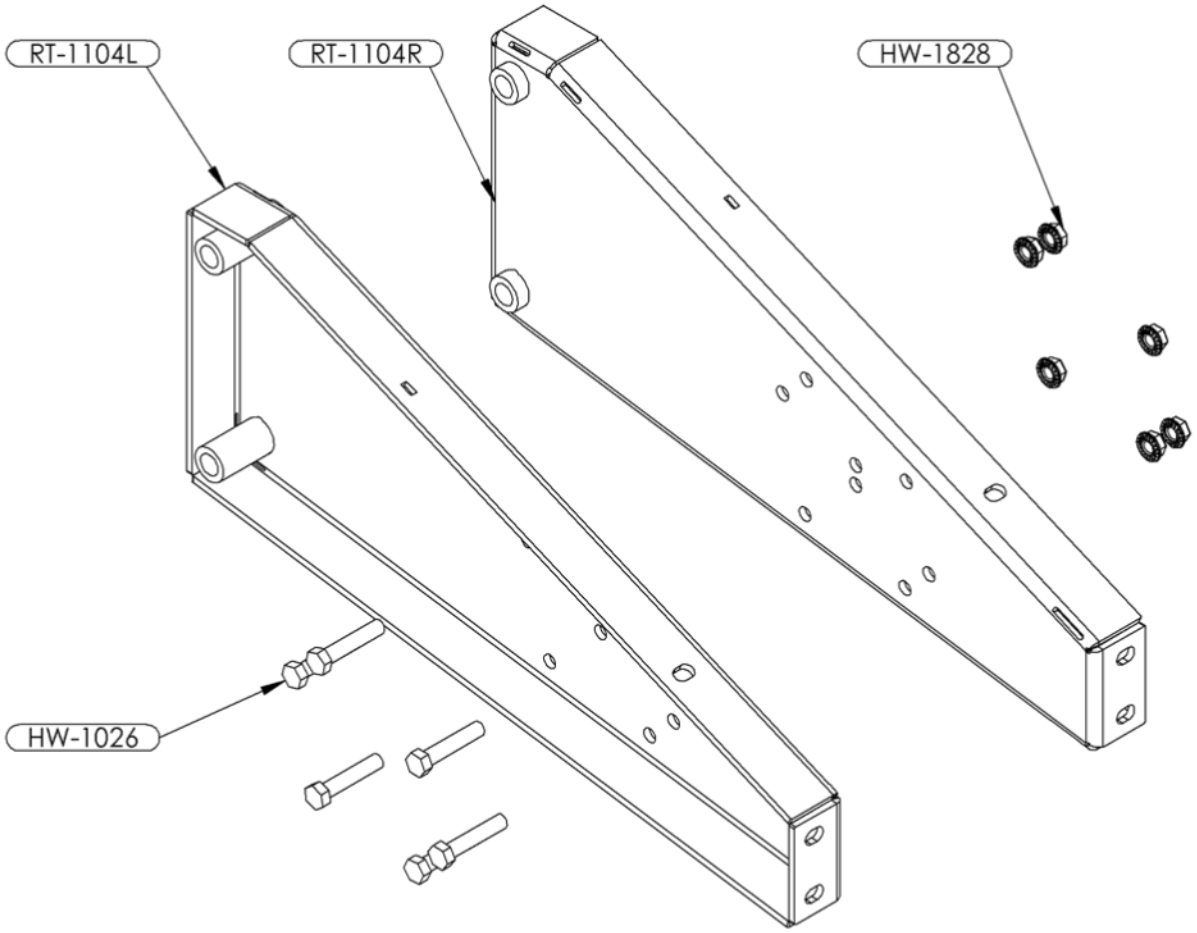
PW-040 HUB RELPACEMENT PARTS

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



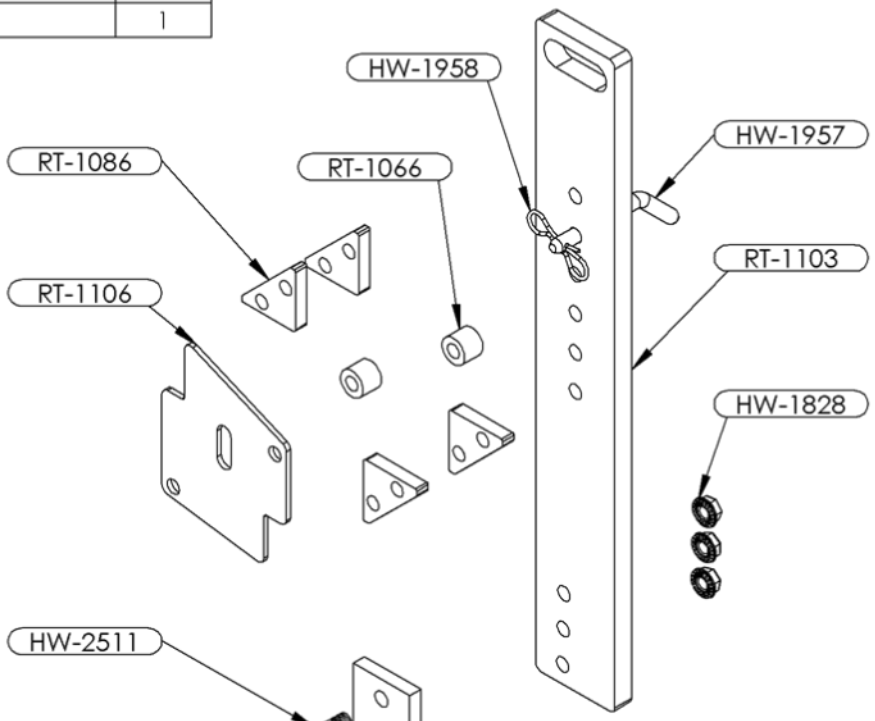
SIDE BODY ASSEMBLY

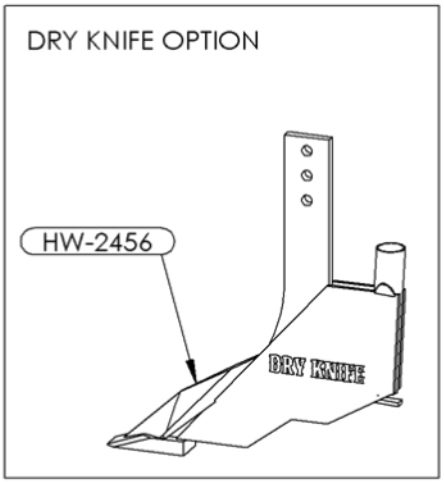
PART NUMBER	DESCRIPTION	QTY.
HW-1026	1/2"-13 X 2-1/2" GR5 ZF HCS	6
HW-1828	1/2"-13 ZF SERRATED FN	6
RT-1104L	LEFT SIDE BODY	1
RT-1104R	RIGHT SIDE BODY	1

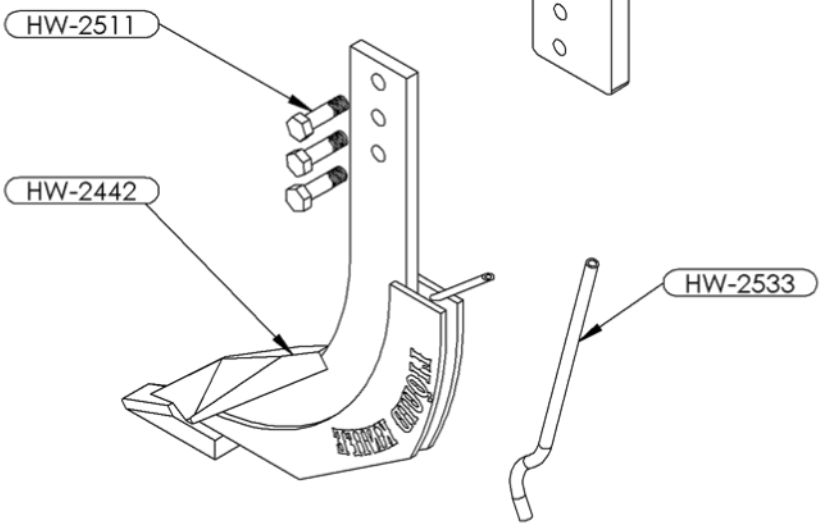


SHANK ASSEMBLY

PART NUMBER	DESCRIPTION	QTY.
HW-1828	1/2"-13 ZF SERRATED FN	3
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-2442	LIQUID FERTILIZER KNIFE	1
HW-2511	1/2"-13 X 1-3/4" GR5 ZF HCS	3
HW-2533	Knife Tube Strip Till 3/8"	1
RT-1066	BODY SPACER	2
RT-1086	SHANK STOP BLOCK	4
RT-1103	RAPID TILL ROW UNIT SHANK	1
RT-1106	SHANK SHIM	1

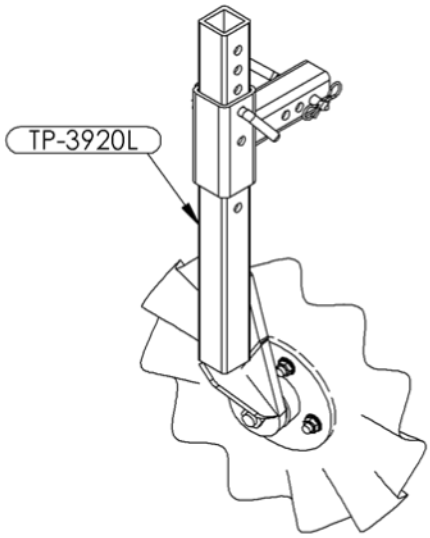


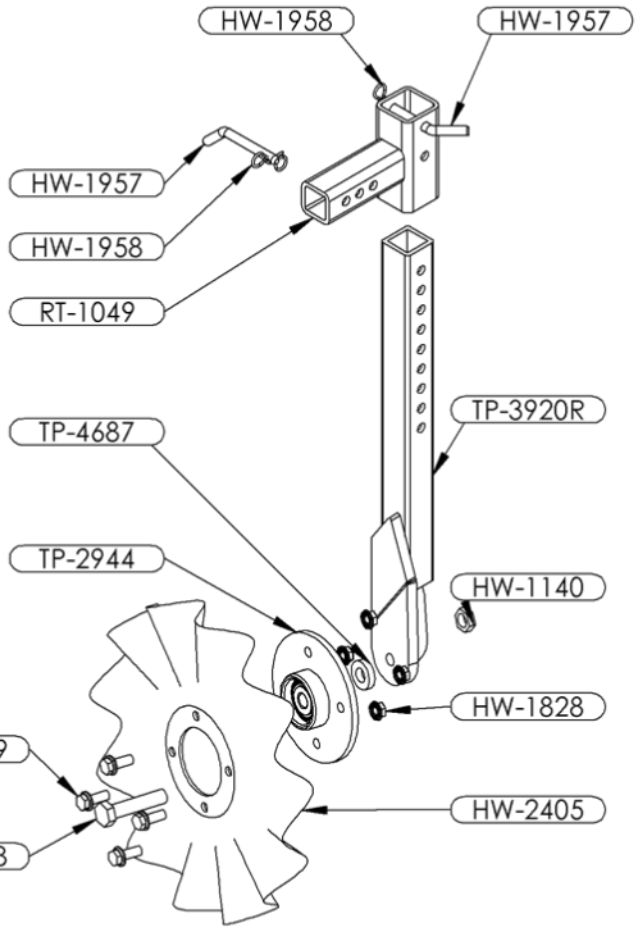




WAVY COULTER ASSEMBLY

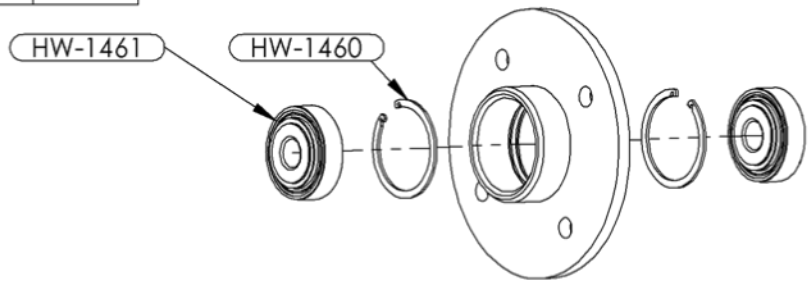
PART NUMBER	DESCRIPTION	QTY.
HW-1128	3/4"-10 X 3-1/2" GR5 ZF HCS	2
HW-1140	3/4"-10 GRA ZF JAM NUT	2
HW-1828	1/2"-13 ZF SERRATED FN	8
HW-1957	BENT PIN, 1/2" X 3" X 45 DEG.	4
HW-1958	BOWTIE PIN, 0.120" WIRE, 1/2"-5/8" CAP.	4
HW-1959	1/2"-13 X 1-1/4" HH ZF SS FB	8
HW-2405	17" WAVY COULTER 13WV	2
RT-1049	RT WAVY COULTER T	2
TP-2944	WAVY COULTER HUB	2
TP-3920R	RIGHT WAVY COULTER STEM	1
TP-3920L	LEFT WAVY COULTER STEM	1
TP-4687	FC & WC EXTERNAL HUB SPACER	2





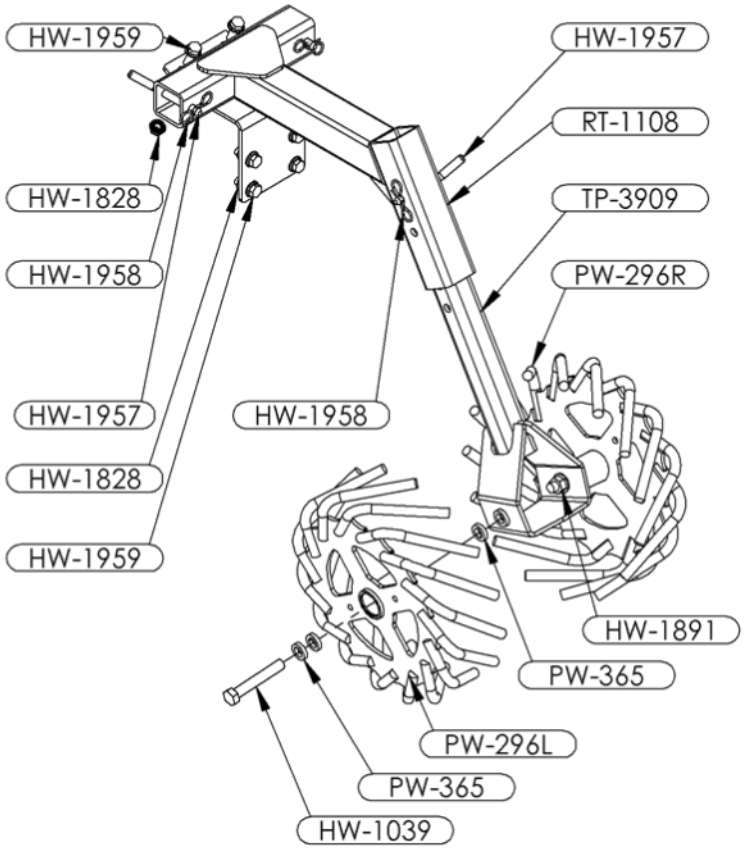
TP-2944 HUBREPLACEMENT PARTS

PART NUMBER	DESCRIPTION	QTY.
HW-1460	SNAP RING, 2.33" INTERNAL	2
HW-1461	BEARING	2



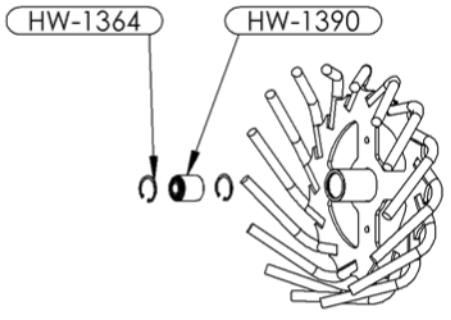
DUAL WHEEL PACKER ASSEMBLY

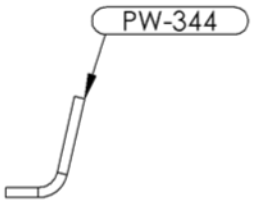
PART NUMBER	DESCRIPTION	QTY.
HW-1039	5/8"11 X 4" GR5 ZF HCS	2
HW-1828	1/2"-13 ZF SERRATED FN	6
HW-1891	5/8"-11 ZF SERRATED FN	2
HW-1957	BENT PIN, 1/2" X 3" X 45 DEG.	3
HW-1958	BOWTIE PIN, 0.120" WIRE, 1/2"-5/8" CAP.	3
HW-1959	1/2"-13 X 1-1/4" HH ZF SS FB	6
PW-296L	16" LONG-ROD PACKER WHEEL, LEFT	1
PW-296R	16" LONG-ROD PACKER WHEEL, RIGHT	1
PW-365	1/4" SPACER	8
RT-1108	DUAL WHEEL PACKER MOUNT	1
TP-3909	DWP MOUNT ARM	1



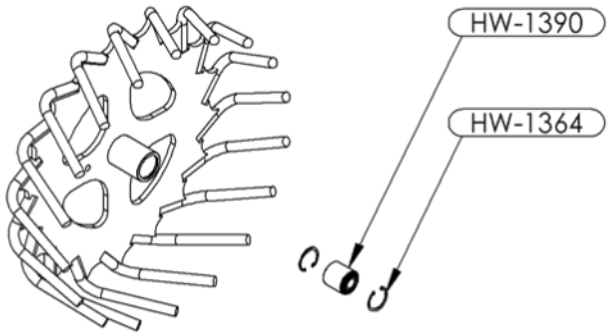
PART NUMBER	DESCRIPTION	QTY.
HW-1364	SNAP RING, 1-9/16" INTERNAL X .062"	2
HW-1390	BEARING	1

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





PW-341 20" OPTIONAL LONG ROD PACKER WHEEL
(PW-344 REPLACEMENT WELD-IN RODS)



INFORMATION REGARDING RAPID TILL

NOTICE

Under all circumstances, these three things are necessary for the Rapid Till 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 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 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 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 3 point pins.

ADJUSTING RAPID TILL

SETTING WHOLE MACHINE

You may need to set the whole machine by "rolling" it forward or rearward using the tractor's 3-point center link. The reason for rolling the machine is to apply more pressure on all the rear row unit packer wheels (rolled rearward) or to make the front flat coulter go deeper on all units. Details are as follows.

- Adjusting the entire machine's rear packer wheel firmness: Control firmness applied to the rear packer wheels by lengthening the center linkage of the tractor's three-point.
- Front Flat Coulter Depth: If the flat coulter of the entire machine is not going deep enough, shorten the center linkage of the tractor. This is intended to roll the machine forward to lower all the front flat coulters as a whole.

SETTING MACHINE BAR HEIGHT

Rapid Till bar needs to be set at the appropriate height 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.

The bottom of the bar will be approximately 32" 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 32" and the bottom of the bar should be approximately 22" from the ground. These dimensions are not exact and should be used as reference only.

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

ADJUSTING RAPID TILL

SETTING INDIVIDUAL ROW UNIT

ROW UNIT DEPTH ADJUSTMENT

Rapid Till row unit depth is set by making adjustments to the dual wheel packers on the back of the row unit and secondary adjustments on the shank. This adjustment is made using the pin (primary adjustment) or the bolt (secondary adjustment) on each row unit.

UNIT DOWN PRESSURE ADJUSTMENT

On the parallel linkage there are two springs that connect the arms to the Rapid Till unit body. More springs can be added to increase unit down pressure to help push the units into the ground in hard heavy soil and keep all the row units on the bar at the same depth.

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.

The wavy coulters should never be set shallower than 4 inches. 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.

ROW CLEANER ADJUSTMENT

Row cleaners are designed to clean residue. They are adjustable for height and width, allowing you to decide how wide of an area is swept clean.

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	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	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 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	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	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	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 TOGETH-	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.
- 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.

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 springs.
- Lubricate the machine and apply grease to all adjustment bolt threads.
- 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.