

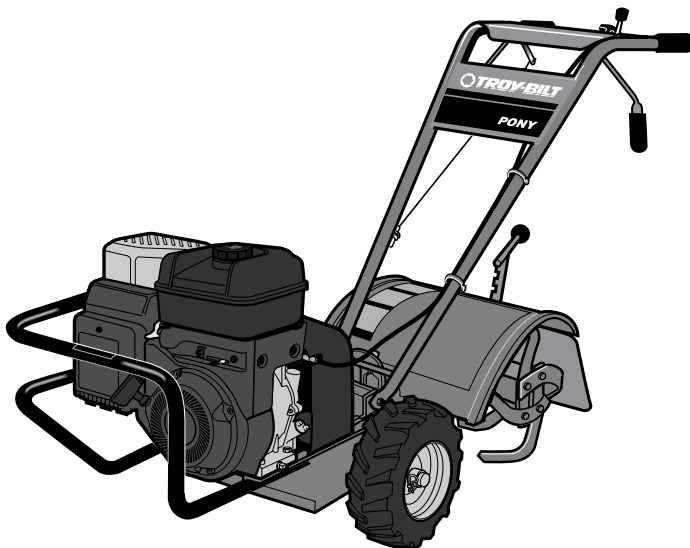


# Operator's Manual

Rear-tine Tiller Model

664D—Pony<sup>®</sup>

E666M—Pony<sup>®</sup>



## **IMPORTANT: READ SAFETY RULES AND INSTRUCTIONS CAREFULLY**

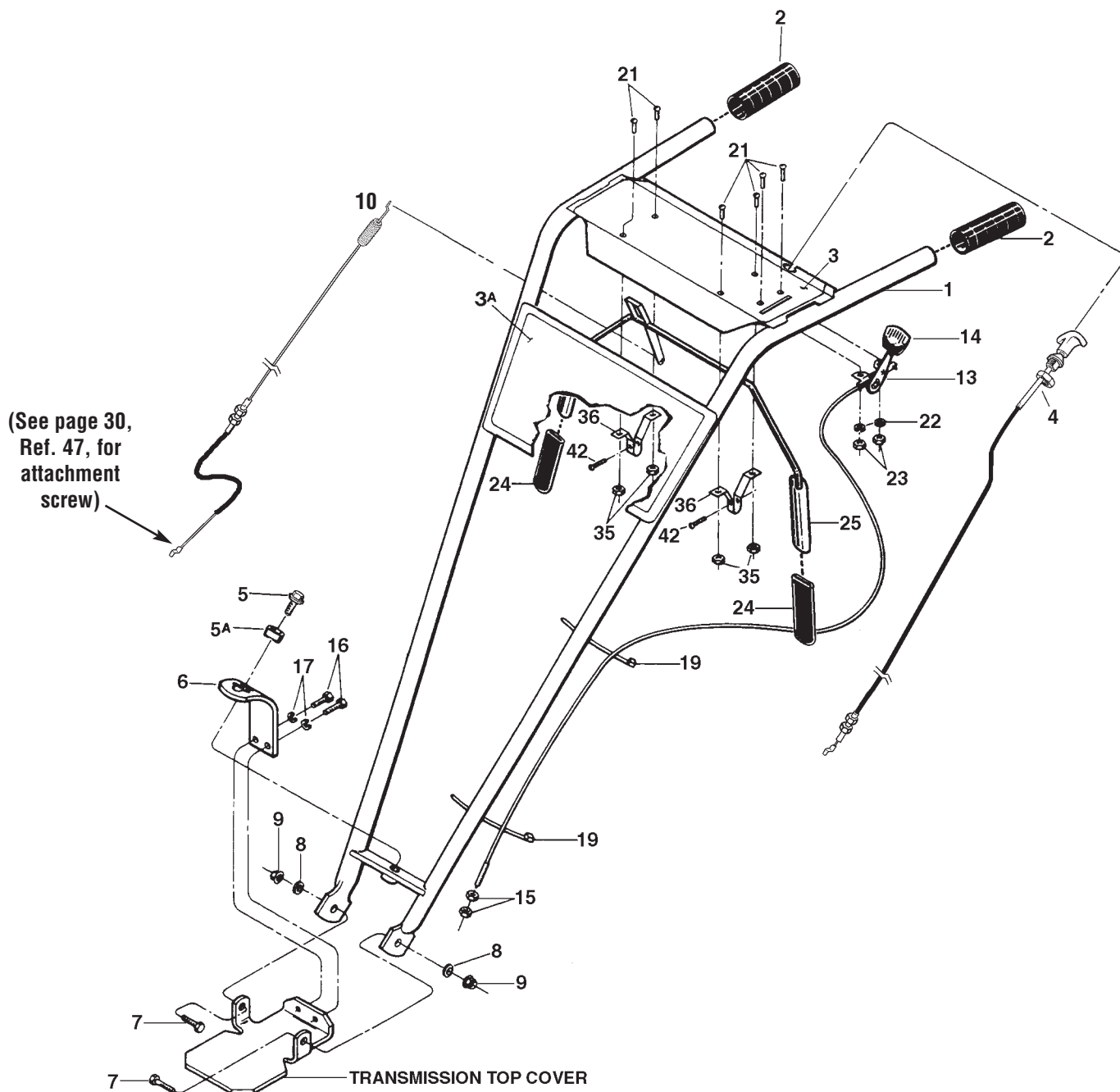
**Warning:** This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator. In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester for the muffler is available by contacting the service department at Troy-Bilt LLC, P.O. Box 361131 Cleveland, Ohio 44136-0019.

**TROY-BILT LLC, P.O. BOX 361131, CLEVELAND, OH 44136-0019**

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HANDLEBAR ASSEMBLY and CONTROL LEVERS

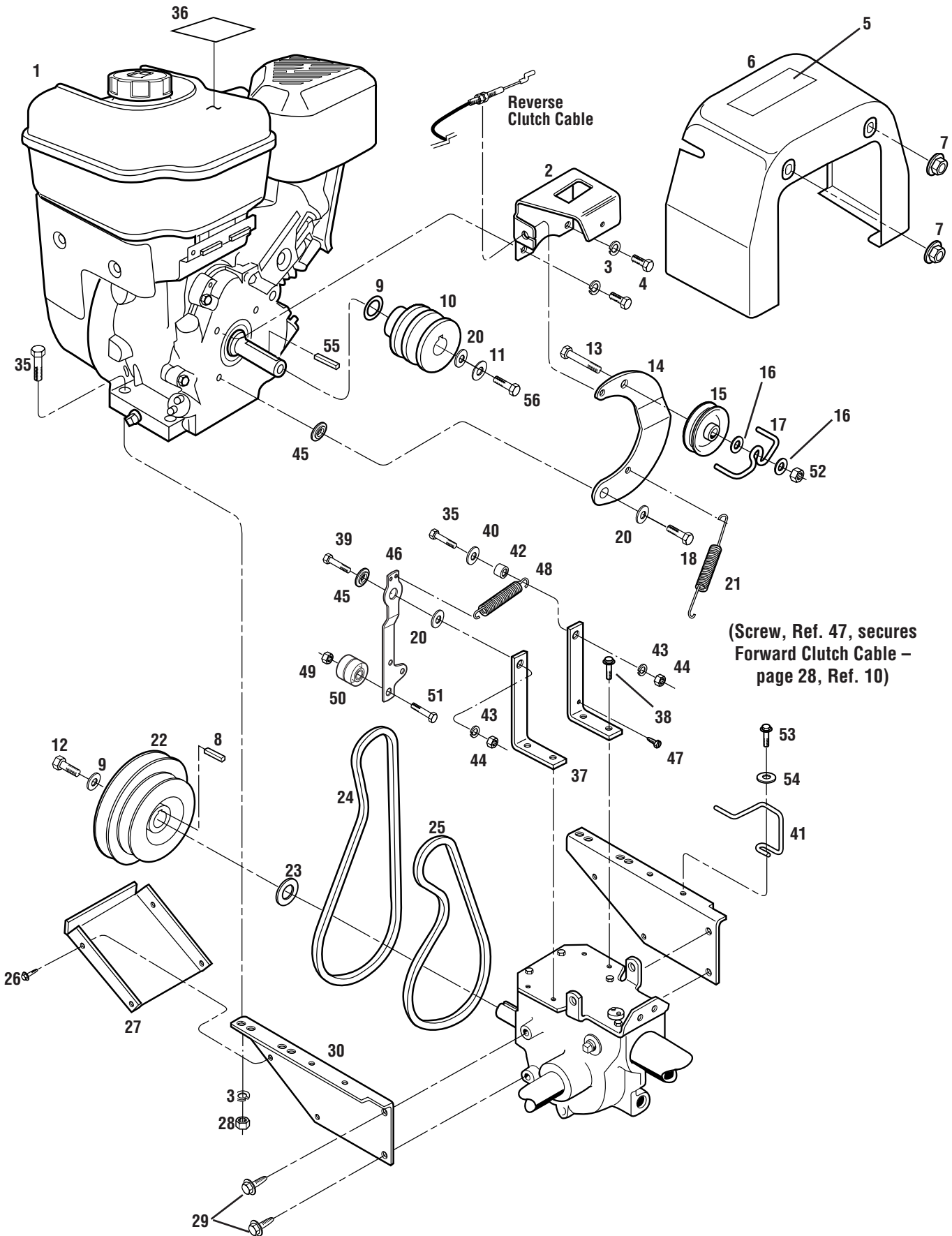


## HANDLEBAR ASSEMBLY and CONTROL LEVERS

REF. No.	PART No.	DESCRIPTION	QTY.	REF. No.	PART No.	DESCRIPTION	QTY.
1	1918811	Handlebars (Incl. Refs. 2, 3 & 3A) .....	1	15	1186211	Hex Nut, 5/16-24 .....	2
2	GW-9126	Grip .....	2	16	710-0216	Hex Hd. Screw, 3/8-16 x 3/4* .....	2
3	777122088	Decal, Control Panel .....	1	17	736-0169	Lockwasher, 3/8 .....	2
3A	777D05553	Decal, Model Name/Logo .....	1	19	725-0157	Cable Ties, Plastic .....	2
4	1916784	Reverse Clutch Control Cable .....	1	21	1114748	Round Hd. Screw, #10-32 x 1/2 .....	6
5	1186347	Height Adjustment Screw .....	1	22	1100240	Lockwasher, #10 .....	2
5A	GW-9955	Washer, Keyed .....	1	23	1186208	Hex Nut, #10-32 .....	2
6	1900475	Bracket, Handlebar Height Adjustment	1	24	GW-9390	Grip .....	2
7	710-0514	Hex Hd. Screw, 3/8-16 x 1* .....	2	25	1918840	Bail, Forward Clutch Control (Incl. two Ref. 24) .....	1
8	736-3050	Washer, Plain (flat) 3/8, S.A.E. ....	2	35	GW-9853	Sems Nut .....	4
9	712-3000	Hex Locknut, 3/8-16 .....	2	36	GW-20806	Bracket, Bail Support .....	2
10	1918791	Cable, Forward Clutch Control .....	1	42	710-0599	Hex Flange Screw, self-tapping, 1/4-20 x 1/2* .....	2
13	GW-9442	Wheel Gear Control and Cable Assy. (Incl. Refs. 14, 15, 19, 21, 22 & 23)	1				
14	GW-9057	Knob, Wheel Gear Control Lever .....	1				

\* Specify GRADE 5 if ordering part locally.

ENGINE, SUPPORT BRACKETS, PULLEYS, BELTS, BELT COVER



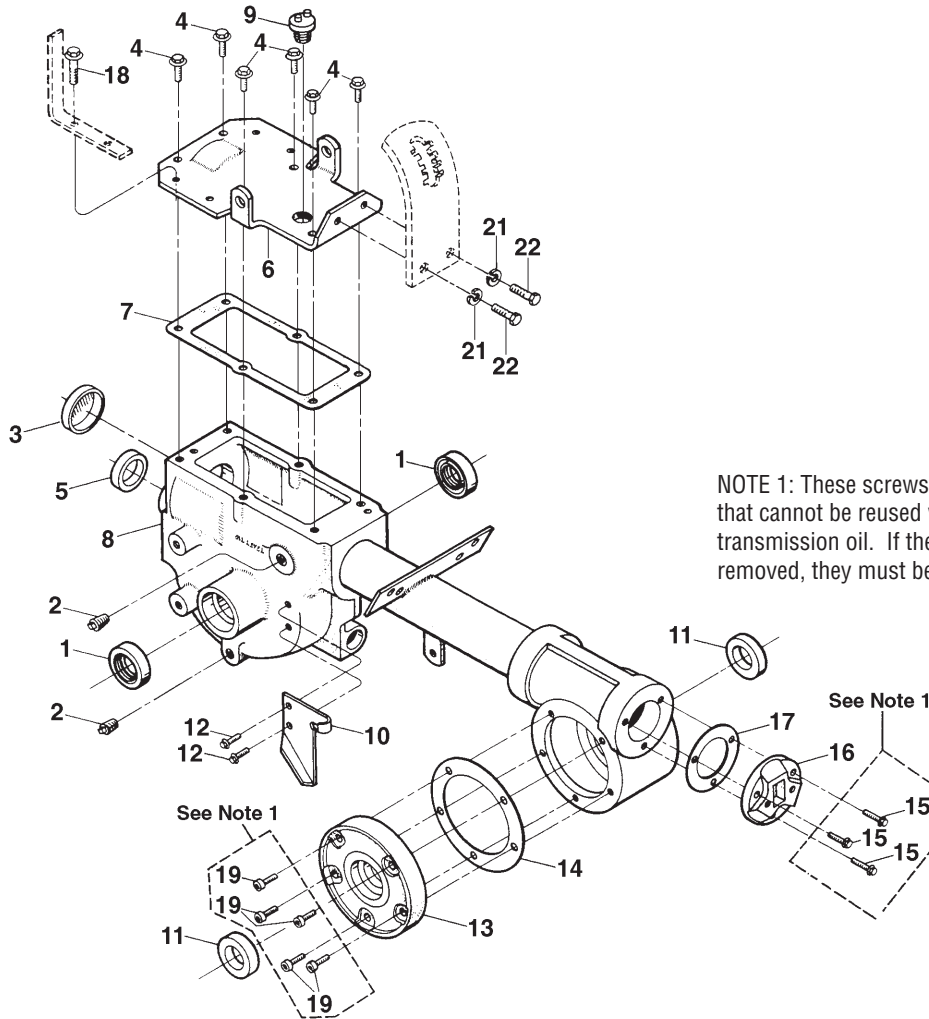
## ENGINE, SUPPORT BRACKETS, PULLEYS, BELTS, BELT COVER

REF. No.	PART No.	DESCRIPTION	QTY.	REF. No.	PART No.	DESCRIPTION	QTY.
1	**	Engine – standard recoil start .....	1	27	GW-20339	Guard, Belts/Pulleys .....	1
	**	Engine – electric start .....	1	28	712-0267	Hex Nut, 5/16–18 .....	4
2	1917326	Bracket, Clutch Cable .....	1	29	1186329	Hex Flange Screw, 5/16-18 x 3/4* .....	4
3	736-0119	Lockwasher–5/16.....	6	30	1916797	Engine Support Bracket, left side .....	1
4	710-0107	Hex Hd. Screw, 5/16-24 x 1/2 .....	2	31	1916796	Engine Support Bracket, right side.....	1
5	777S30651	Decal, Hot Surfaces/Belt Warning .....	1	35	710-0805	Hex Hd. Screw, 5/16–18 x 1-1/2 .....	5
6	1917139	Cover (Incl. Ref. 5).....	1	36	777I20942	Decal, Stabilization .....	1
7	712-3004A	Flange Lock Nut, 5/16-18 .....	2	37	1918774	Mounting Bar .....	2
8	1108841	Key, 3/16 x 1-1/2 .....	1	38	GW-90063	Hex Flange Screw, 5/16-18 x 1 .....	4
9	GW-1138-1	Shim .....	1	39	710-3037	Hex Hd. Screw, 5/16-18 x 2-1/4* .....	1
10	619-04015	Pulley, Engine Drive .....	1	40	736-0275	Flat Washer, 5/16' .....	1
11	GW-9944	Belleville Washer .....	2	41	1918846	Belt Guide, Pony .....	2
12	GW-9572	Hex Hd. Screw, 5/16–24 x 1-1/8 .....	1	42	GW-55088	Pivot Bushing.....	2
13	710-3103	Hex Hd. Screw, 5/16–18 x 2 .....	1	43	736-0119	Lockwasher, 5/16.....	2
14	1918731	Reverse Idler Arm .....	1	44	712-0267	Hex Nut, 5/16-18.....	2
15	1916535	Pulley, Reverse Idler .....	1	45	1917746	Washer, Shoulder .....	2
16	1107382	Flat Washer, 5/16.....	2	46	1918744	Idler Arm, Forward Tiller Direction.....	1
17	1916725	Belt Guide, Wire Formed .....	1	47	1767754	Screw, self tapping, #10-24 .....	1
18	710-0117	Hex Head Screw, 5/16-24 x 1.....	1	48	1916727	Spring .....	1
19	1917746	Washer, Shoulder .....	1	49	712-3000	Hex Locknut, 5/16-18 .....	1
20	GW-9929	Washer, Flat, 1-1/8.....	3	50	GW-9090	Idler Pulley, Forward .....	1
21	1916728	Spring, Reverse Return .....	1	51	710-0347	Screw, 3/8-16 x 1-3/4 .....	1
22	1916522	Transmission Pulley.....	1	52	712-0158	Hex Lock Nut, 5/16-18 .....	1
23	GW-1440	Support Washer.....	1	53	1754128	Screw, 1/4-20 x 3/4 .....	1
24	1918812	Reverse Clutch Belt.....	1	54	736-0463	Flat Washer–1/4.....	1
25	1909404	Forward Clutch Belt.....	1	55	714-04029	Key, .188 x 1.75 .....	1
26	1900396	Self-tapping Screw, #10-32 x 1/2, .....	4	56	710-0539	Screw, 3/8-24 x 1.75.....	1

\* Specify GRADE 5 if ordering part locally.

\*\* See your local authorized engine service dealer for engine parts or service. Refer to engine nameplate for engine type and code information.

**TRANSMISSION HOUSING, COVERS, SEALS, GASKETS, PLUGS**



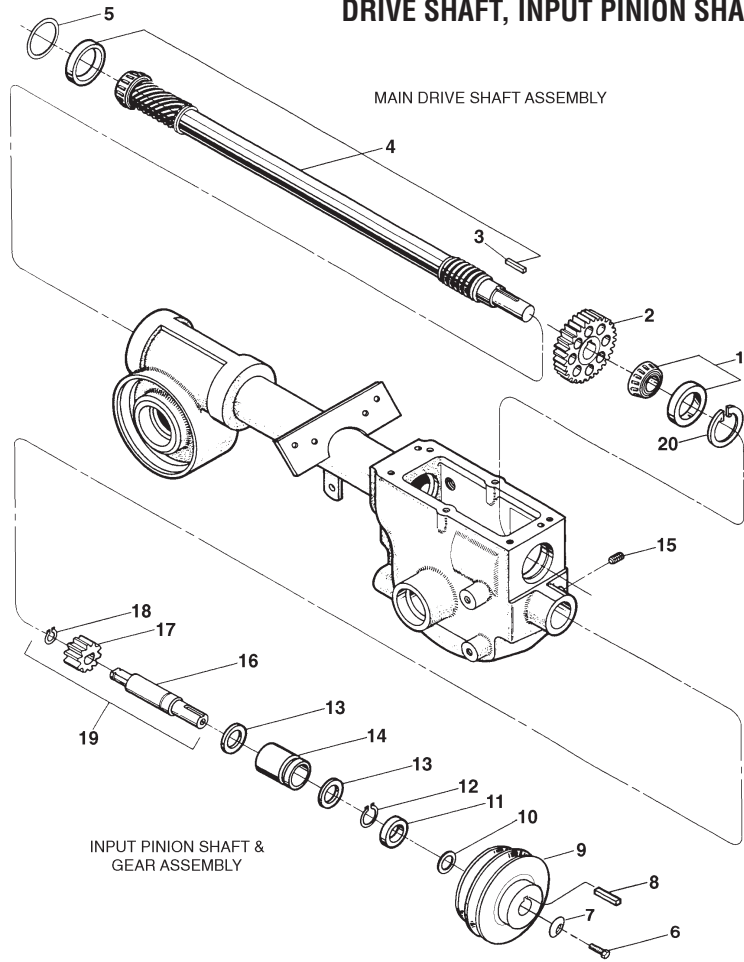
NOTE 1: These screws are a special sealing screw that cannot be reused without risking the loss of transmission oil. If these screws are loosened or removed, they must be replaced with new screws.

REF. No.	PART No.	DESCRIPTION	QTY.	REF. No.	PART No.	DESCRIPTION	QTY.
1	GW-9621	Oil Seal (Double Lip), Wheel Shaft .....	2	13	GW-20873	Tiller Housing Cover, left side .....	1
2	1105620	Pipe Plug, 1/4, .....	2	14	GW-1129-1	Gasket, Tiller Housing Cover, .010" (fits all covers) .....	A/R
3	721-04001	Seal, Transmission Bore .....	1	15	1915089	Screw Kit: Incl. three 1/4-20 x 7/8 Self-Sealing Screws .....	A/R
4	1186329	Hex Flange Screw, 5/16-18 x 3/4* .....	6	16	GW-1115	Rear Bearing Cap .....	1
5	1983632	Oil Seal, Input Pinion Shaft .....	1	17	GW-1124-2	Gasket, Rear Bearing Cap, .010" Thick .....	A/R
6	GW-11513	Transmission Cover (Incl. four Ref. 18 and two ea. Refs. 21 & 22).....	1	18	GW-90063	Hex Flange Screw, 5/16-18 x 1* .....	4
7	GW-20694	Gasket, Transmission Top Cover .....	1	19	1915087	Screw Kit: Incl. five 1/4-20 x 5/8 Self-Sealing Screws .....	A/R
8	619-04010	Transmission Case Assy. ....	1	21	736-0169	Lockwasher, 3/8.....	2
9	GW-9467	Plug .....	1	22	710-0216	Hex Hd. Screw, 3/8-16 x 3/4* .....	2
10	GW-20889	Mounting Plate, Wheel Clutch Cable ...	1				
11	721-04035	Oil Seal, Tiller Shaft.....	2				
12	1186328	Hex Flange Screw, 5/16-18 x 5/8* .....	2				

\* Specify GRADE 5 if ordering part locally.

A/R – As Required

**DRIVE SHAFT, INPUT PINION SHAFT and GEAR ASSEMBLIES**



REF. No.	PART No.	DESCRIPTION	QTY.
<b>MAIN DRIVE SHAFT</b>			
1	GW-1714	Bearing, Tapered Roller with Race ....	1
2	GW-20718	Spur Gear .....	1
3	GW-9301	Key, 3/16 sq. x 1 .....	1
4	GW-20912	Main Drive Shaft (Drive shaft is one-piece with integral, single-lead, work-hardened front worm, and integral, six-lead, work-hardened rear worm. Also includes pressed-on GW-1714 and GW-9301).....	1
5	GW-1224-1	Shim, Rear Bearing Cap, .010" thick (see Note below) .....	A/R
5	GW-1224-2	Shim, same as above, but .030" thick (see Note).....	A/R
5	GW-1224-3	Shim, same as above, but .005" thick (see Note).....	A/R
...	GW-1325C	Shim Set (Incl. two GW-1224-1; two 1224-2 and one GW-1224-3) .....	A/R

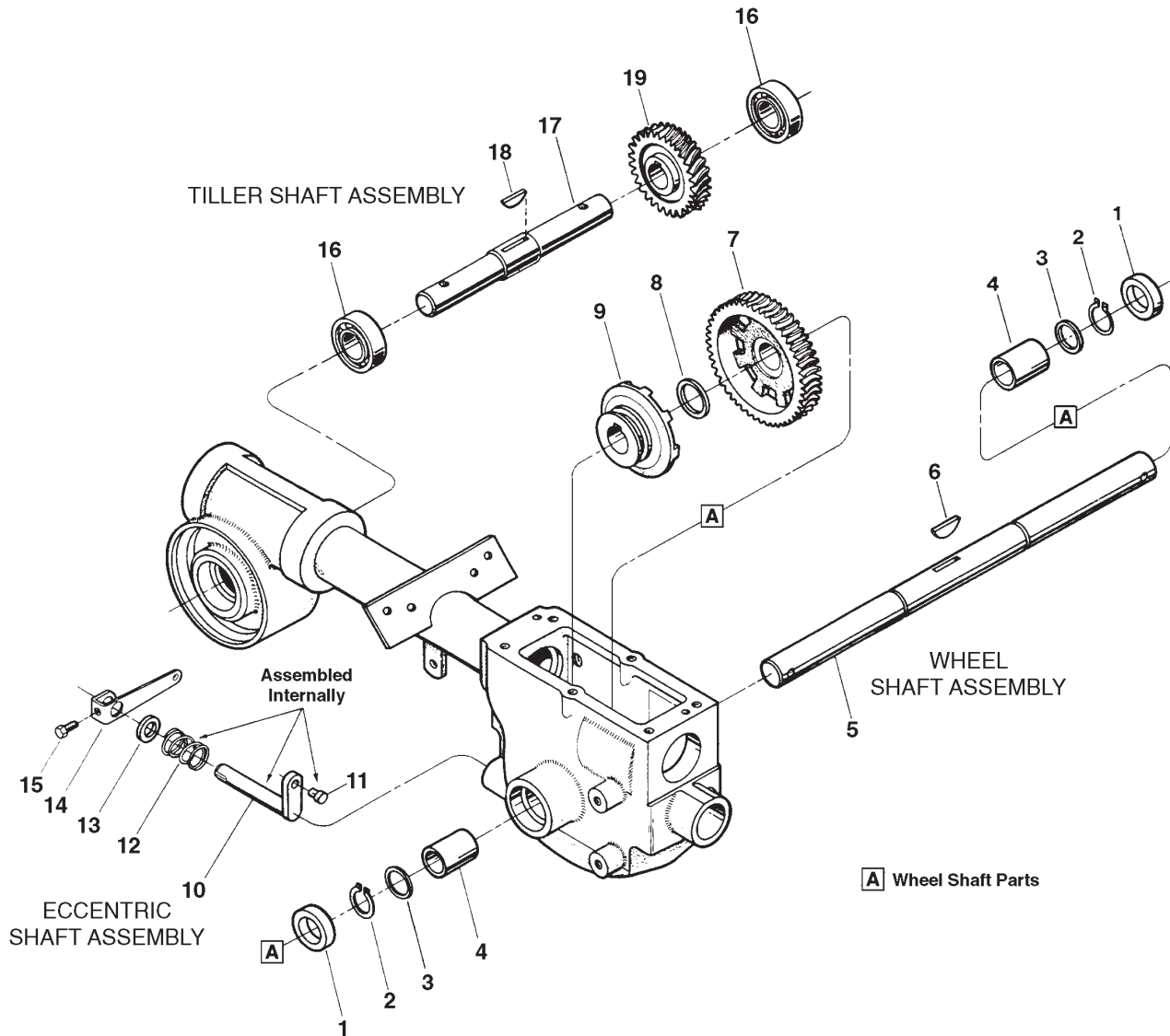
REF. No.	PART No.	DESCRIPTION	QTY.
<b>INPUT PINION SHAFT &amp; GEAR ASSEMBLY</b>			
6	GW-9572	Hex Hd. Screw, 5/16-24 x 1-1/8* .....	1
7	GW-9944	Washer, Disc Spring (concave surface faces pulley).....	1
8	1108841	Key, 3/16 sq. x 1-1/2 .....	1
9	1916522	Transmission Drive Pulley.....	1
10	GW-1440	Support Washer .....	1
11	721-04044	Oil Seal, Input Pinion Shaft.....	1
12	1113527	Retaining Ring (external) .....	1
13	GW-9953	Thrust Washer.....	2
14	GW-9428	Bushing .....	1
15	GW-9677	Set Screw, 5/16-18 x 3/8* .....	1
16	GW-20791	Input Pinion (steel shaft).....	1
17	GW-20792	Input Pinion Gear .....	1
18	GW-9093	Retaining Ring (external) I.....	1
19	GW-20799	Pinion Assy. (Incl. one each Refs. 16, 17 and 18 .....	A/R
20	GW-9517	Retaining Ring (internal) .....	1

NOTE: Shim between drive shaft rear bearing and rear bearing cap to achieve 5-to-10 thousandths of an inch (.005-.010) end play on drive shaft.

A/R - As Required

\* Specify GRADE 5 if ordering part locally.

**WHEEL SHAFT, ECCENTRIC SHAFT and TILLER SHAFT ASSEMBLIES**



REF. No.	PART No.	DESCRIPTION	QTY.
1	721-04031	Oil Seal .....	2
2	1909950	Retaining Ring (heavy-duty, external) .....	2
3	GW-1166-1	Shim, 1-1/64 I.D., .062" thick .....	A/R
---	GW-1166-2	Shim, as above, but .030" thick .....	A/R
---	GW-1166-3	Shim, as above, but .015" thick .....	A/R
---	GW-1166-4	Shim, as above, but .010" thick .....	A/R
4	GW-1086	Bushing .....	2
5	711-04091	Wheel Shaft (Incl. Ref. 6) .....	1
6	GW-9373	Hi-Pro Key, 1/4 x 1-5/16 .....	1
7	GW-20914	Wheel Drive Worm Gear (cast-iron) ..	1
8	GW-9935	Shim (between key and gear), 1.016 I.D. x 1.468 O.D. x .062 Thick .....	1

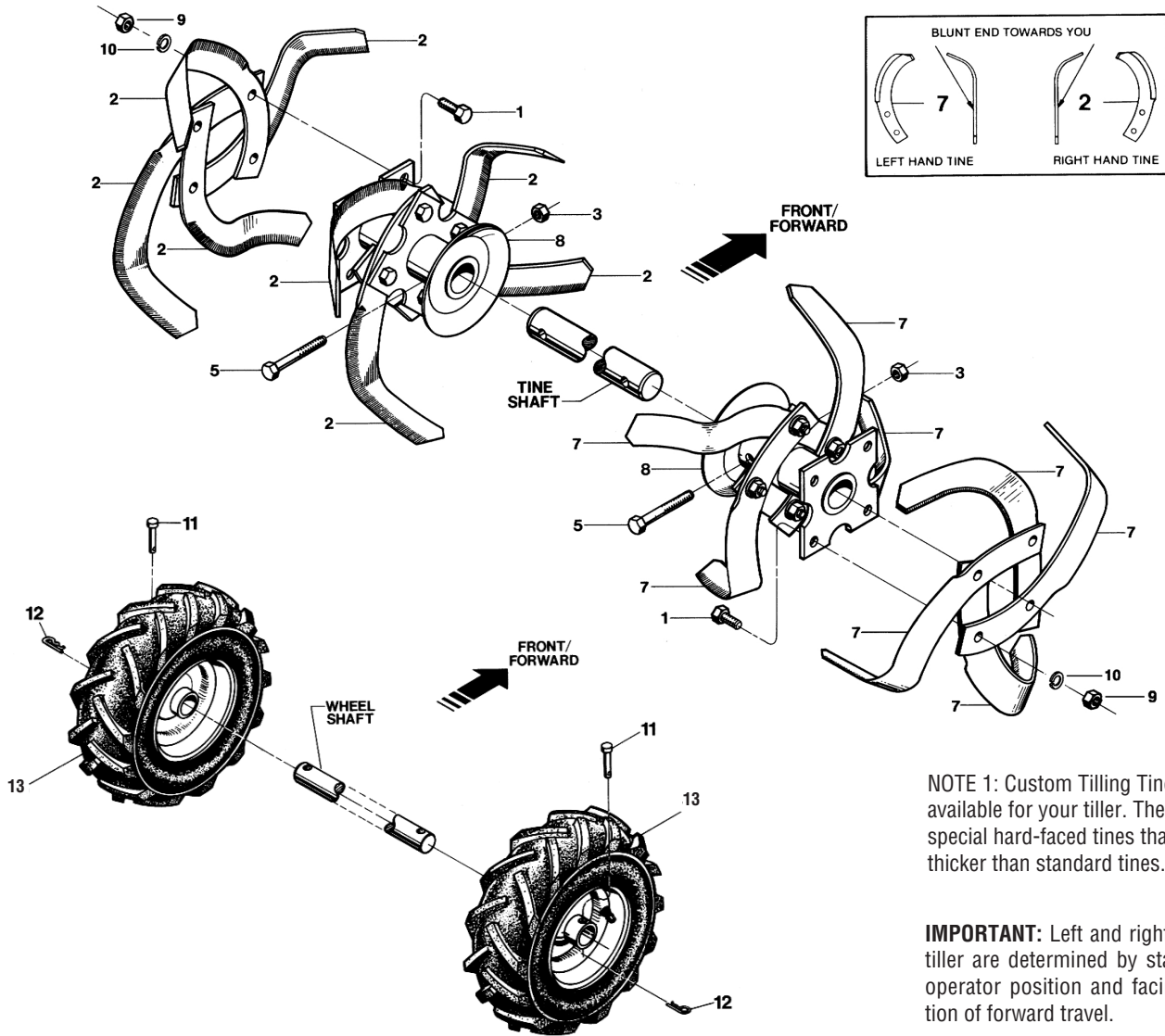
REF. No.	PART No.	DESCRIPTION	QTY.
9	GW-20712	Wheel Drive Clutch (cast-iron) .....	1
10	611-04002	Eccentric Shaft .....	1
11	GW-1442	Pin, Eccentric Shaft .....	1
12	GW-9055	Spring .....	1
13	721-04034	Oil Seal .....	1
14	GW-20700	Eccentric Shaft Lever .....	1
15	710-3013	Hex Hd. Screw, 1/4-20 x 1/2* .....	1
16	741-3037	Ball Bearing .....	2
17	711-04080	Tiller Shaft (Incl. Ref. 18) .....	1
18	GW-1104	Woodruff Key, 1/4 x 1-1/4 .....	1
19	GW-20913	Tiller Drive Worm Gear (bronze) .....	1

\* Specify GRADE 5 if ordering part locally.

A/R - As Required



**BOLO TINES, WHEELS**



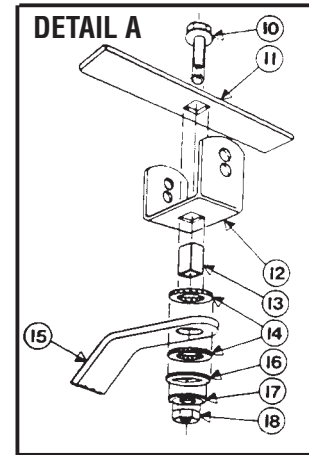
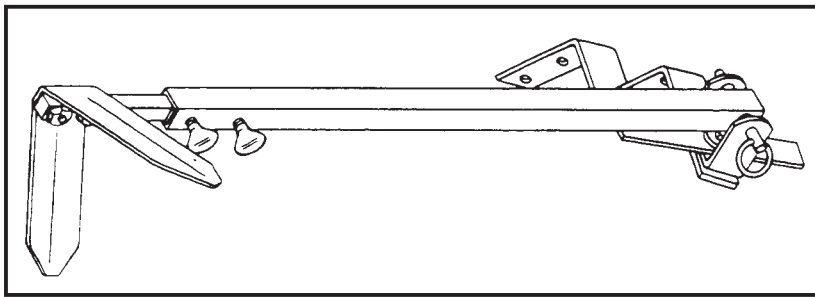
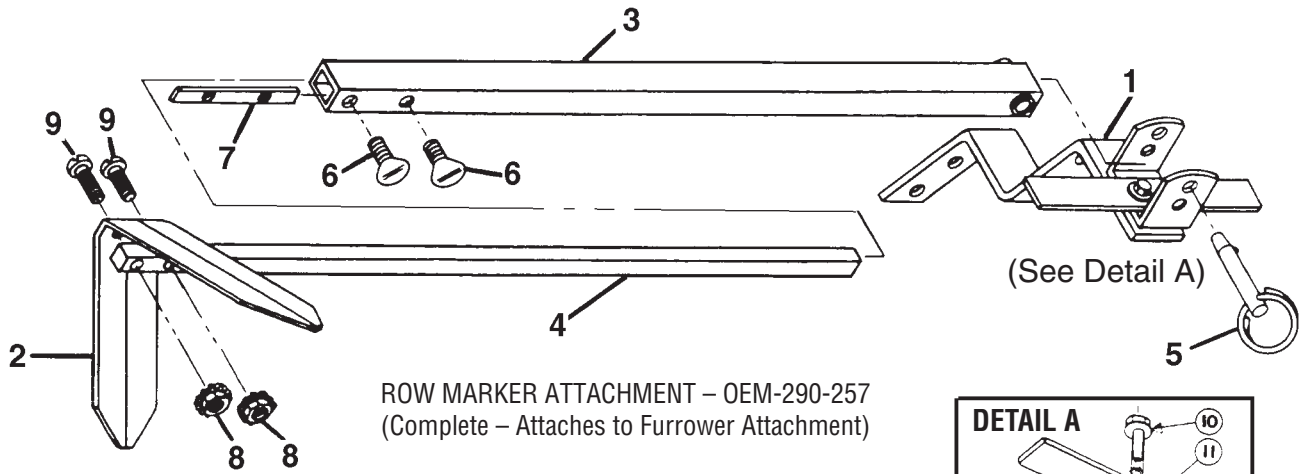
NOTE 1: Custom Tilling Tines are available for your tiller. These are special hard-faced tines that are thicker than standard tines.

**IMPORTANT:** Left and right sides of tiller are determined by standing in operator position and facing direction of forward travel.

REF. No.	PART No.	DESCRIPTION	QTY.	REF. No.	PART No.	DESCRIPTION	QTY.
1	710-3105	Hex Hd. Screw, 3/8-16 x 1-1/4* .....	16	--	GW-2475-1	Custom Tilling Bolo Tine, Left hand tine (see Note 1 above) .....	8
2	GW-1270-2A	Bolo Tine-single. Right hand tine used on left side of tiller. (Incl. two ea. Refs. 1 and 3) .....	8	--	GW-2475-2	Custom Tilling Bolo Tine, Right hand tine (see Note 1 above) .....	8
3	712-0375	Hex Locknut, 3/8-16 .....	2	--	GW-10802	Custom Tilling Bolo Tine Replacement Set (Incl. eight ea. right hand and left hand custom tines, and sixteen each of Refs. 1 and 3) .....	1
5	710-3096	Hex Hd. Screw, 3/8-16 x 2, Grade 8....	2	9	712-3017	Hex Nut, 3/8-16.....	16
7	GW-1270-1A	Bolo Tine-single. Left hand tine used on right side of tiller. (Incl. two ea. Refs. 1, 9 and 10) .....	8	10	736-0169	Lock Washer, 3/8.....	16
8	1902154010	Tine Holder. For left and right sides ....	2	11	GW-9380	Clevis Pin, .312 x 1-3/4 .....	2
--	1901118	Bolo Tine Replacement Set (Incl. eight ea. right hand and left hand tines, and sixteen ea. Refs. 1 and 3) .....	1	12	GW-9338	Hitch Pin .....	2
				13	1917487	Wheel and Tire Assembly .....	2

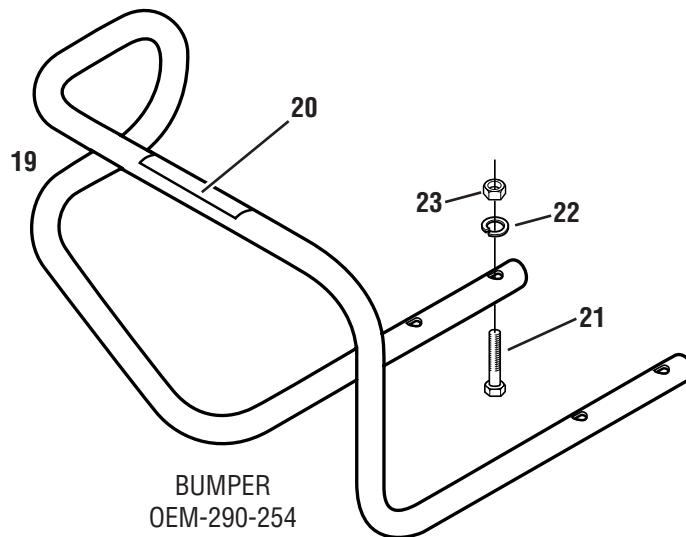
\* Specify GRADE 5 if ordering part locally.

**ROW MARKER ATTACHMENT**



MAIN SUPPORT/YOKE ASSEMBLY  
PART # 1904522001

**BUMPER ATTACHMENT**



**ROW MARKER ATTACHMENT & BUMPER ATTACHMENT**

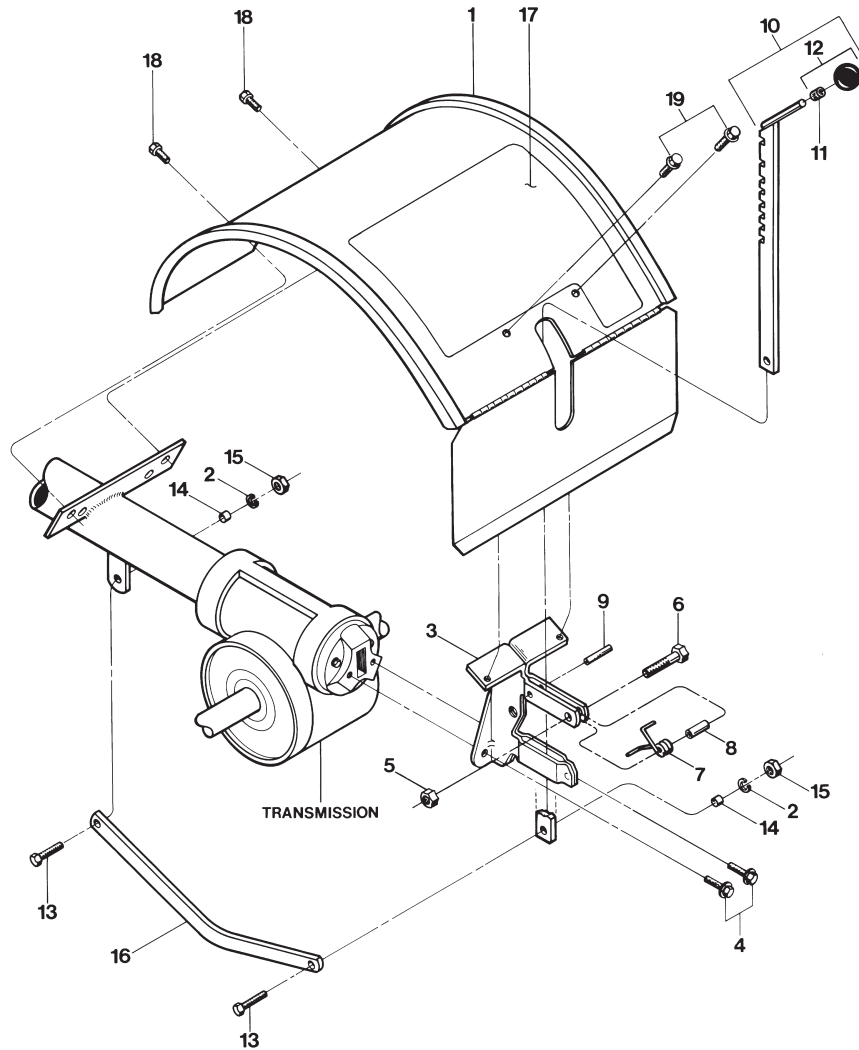
REF No.	PART No.	DESCRIPTION	QTY.
<b>Row Marker Attachment (option) – OEM-290-254</b>			
1	1904522001	Main Support & Yoke Assy–complete. (Incl. Ref. No.'s 10,11,12,13,14,15,16,17 & 18).....	1
2	GW-1594	Marker Blade–blade only .....	1
3	1904524001	Marker Arm–main arm .....	1
4	1904523001	Marker Arm–extension arm with stop pin .....	1
5	GW-9347	Hitch Pin–(incl. in Hardware Pkg GW-1837).....	1
6	GW-9786	Thumbscrew–1/4-20 x 1/2, not avail. sep. (see hardware pkg. GW-1837).....	2
7	GW-1596	Nut Bar–(incl. in hardware pkg GW-1837).....	1
8	GW-9828	Nut–hex, 10-24 w/attached start washers, not avail. sep. (see hardware pkg #1837) .....	2
9	1100135	Screw–round hd., 10-24 x 1, not avail. sep. (see hardware pkg GW-1837).....	2
---	GW-1837	Hardware Package–includes: one GW-9347 hitch pin (Ref. 5), two GW-9786 thumbscrews (Ref. 6), one GW-1596 nut bar (Ref. 7), two GW-9828 hex nuts (Ref. 8), two 1100135 screws (Ref. 9) .....	1

REF No.	PART No.	DESCRIPTION	QTY.
<b>Row Marker Main Support &amp; Yoke Assembly – Part #1904522001</b>			
10	1186349	Screw–hex flanged locking, 3/8-16 x 1-1/2* .....	1
11	GW-1593	Stop Bar .....	1
12	GW-1592	Yoke .....	1
13	GW-1591	Tube Key–square.....	1
14	GW-1590	Washer–friction.....	2
15	GW-1588	Main Support .....	1
16	GW-1589	Washer–square hole.....	1
17	GW-9925	Washer–disc spring .....	1
18	1186231	Nut–hex 3/8-16 .....	1
<b>Bumper – OEM-290-254</b>			
19	1918749001	Bumper (includes Ref. 20) .....	1
20	777S30653	Decal - Caution .....	1
21	710-3073	Screw–hex hd., 5/16-18 x 2-1/4*, not avail. separately (order #1918781 hardware kit) ..	4
22	736-0119	Lockwasher–5/16*, not avail. separately (order #1918781 hardware kit) .....	4
23	712-0267	Nut–hex, 5/16-18*, not avail. separately (order #1918781 hardware kit) .....	4
---	1918781	Hardware Kit: Incl. four each of Refs. 21, 22 and 23 .....	1

Note: Common hardware listed above as “not available separately” can be found at most hardware stores.

\* Specify GRADE 5 if ordering part locally.

**HOOD, BRACKET and DEPTH REGULATOR**

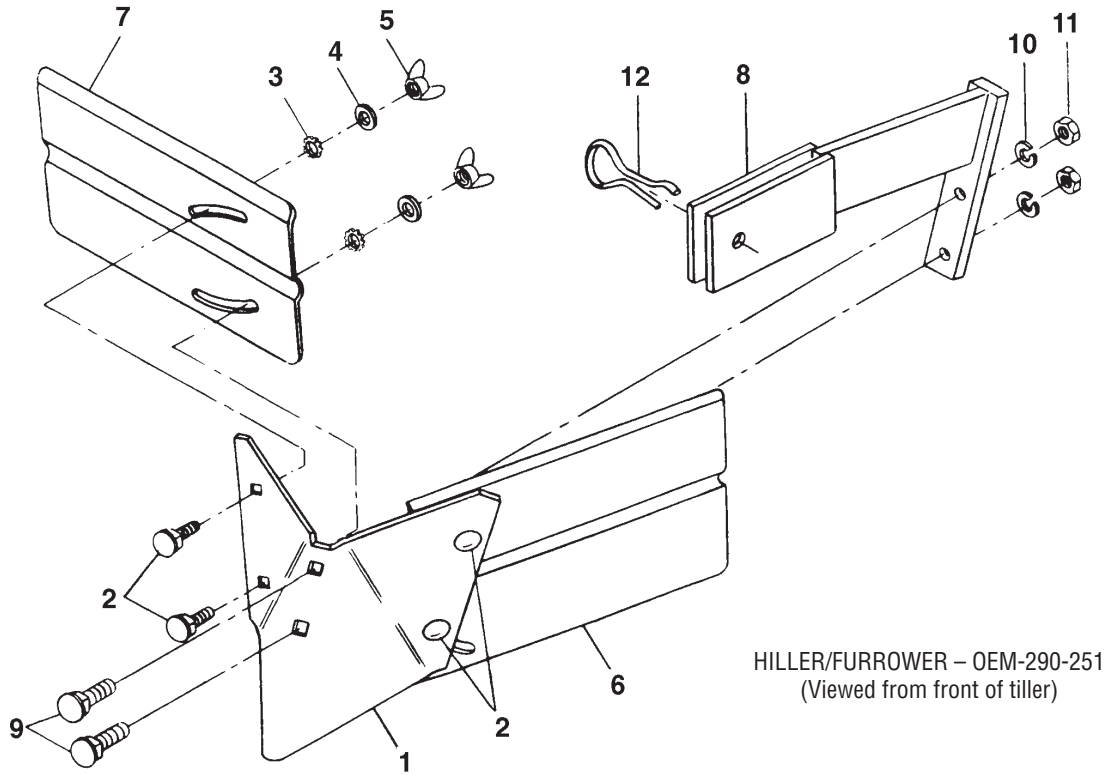


REF. No.	PART No.	DESCRIPTION	QTY.
1	1917605	Tine Hood (Incl. hood flap and Ref.17) .....	1
2	710-0169	Lockwasher, 3/8.....	2
3	GW-2527	Bracket-hood & depth regulator (Incl. Ref. No. 9).....	1
4	1186328	Hex Flange Screw, 5/16-18 x 5/8* .....	2
5	712-0291	Hex Locknut, 1/4-20 .....	1
6	710-0597	Hex Hd. Screw, 1/4-20 x 1* .....	1
7	GW-9384	Spring .....	1
8	GW-9534	Spacer.....	1
9	1185469	Roll Pin (spiral), 1/4 x 1 .....	1
10	GW-1117A	Depth Adjustment Bar Assembly (Incl. Refs. 11 and 12) .....	1

REF. No.	PART No.	DESCRIPTION	QTY.
11	GW-9120	Retaining Ring (tolerance ring) .....	1
12	GW-9119	Knob, Depth Regulator (Incl. Ref. 11). .....	1
13	710-3005	Hex Hd. Screw, 3/8-16 x 1-1/4* .....	2
14	GW-1113-1	Bushing, Drag Bar.....	2
15	712-0798	Hex Nut, 3/8-16.....	2
16	GW-20775	Drag Bar .....	1
17	777S30649	Decal, operating instructions .....	1
18	GW-9553	Hex Hd. Screw, self-tapping, 5/16-18 x 1/2* .....	2
19	710-0599	Hex Flange Screw, self-tapping, 1/4-20 x 1/2* .....	2

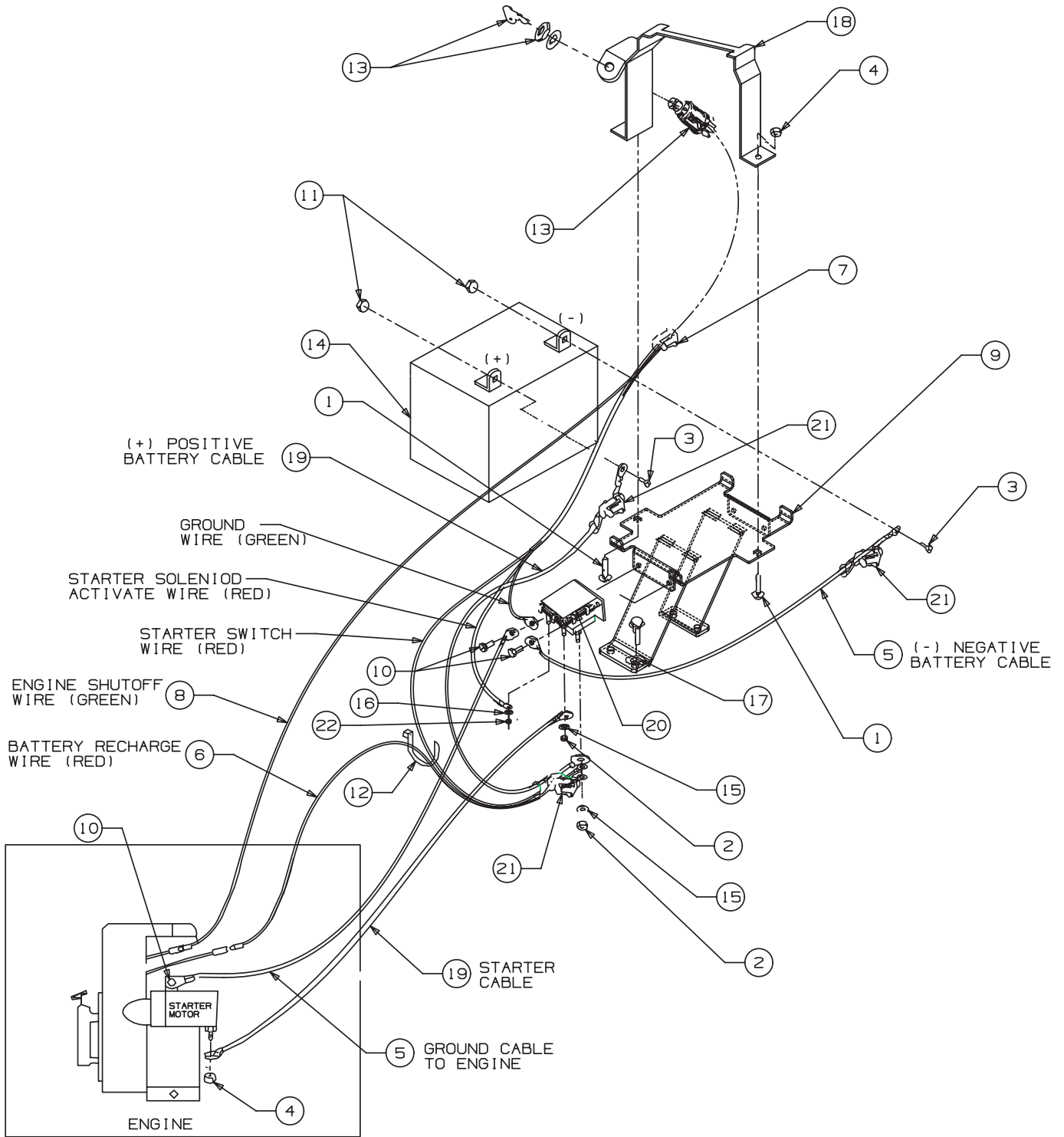
\* Specify GRADE 5 if ordering part locally.

HILLER/FURROWER ATTACHMENT



HILLER/FURROWER – OEM-290-251  
(Viewed from front of tiller)

REF. No.	PART No.	DESCRIPTION	QTY.	REF. No.	PART No.	DESCRIPTION	QTY.
1	1900771001	Furrower Blade.....	1	9	GW-9725	Carriage Bolt, 3/8-16 x 1-1/2.....	2
2	1186098	Carriage Bolt, 5/16-18 x 3/4.....	4	10	1100243	Lockwasher, 3/8, plated.....	2
3	1177548	Star Washer, External Tooth, 5/16.....	4	11	1186231	Hex Nut, 3/8-16, plated.....	2
4	GW-9902	Plain Washer, 5/16 S.A.E.....	4	12	GW-9318	Clinch Pin.....	1
5	GW-9824	Wing Nut, 5/16-18.....	4				
6	1900773001	Hiller Wing, left.....	1				
7	1900774001	Hiller Wing, right.....	1				
8	1900772001	Blade Mounting Bracket.....	1				



## ELECTRIC START ASSEMBLY

REF. No.	PART No.	DESCRIPTION	QTY.	REF. No.	PART No.	DESCRIPTION	QTY.
1	1186073	Carriage Screw, 1/4-20 x 1.25.....	2	8	1917262	Ground Wire Assy. (shut off) .....	1
2	1186211	Hex Nut, 5/16-24.....	2	9	686-04024	Battery Bracket Assembly, Pony.....	1
3	1186390	Flange Screw, 1/4-20 x .625.....	2	10	710-0599	Self-tapping Screw, 1/4-20 x .5.....	3
4	1186389	Hex Locknut, 1/4-20.....	2	11	712-3006	Hex Nut, 1/4-20.....	2
5	1901202	Cable (ground wire to starter motor bracket).....	2	12	725-0157	Cable Tie.....	1
6	1901894	Recharge Wire Assembly .....	1	13	725-0267	Ignition Switch .....	1
7	1908118	Wire Harness Assy. (available as complete assembly only). Incl. wire assy. w/connector to large solenoid stud (red wire); wire assy. w/connector to small solenoid stud (red wire); wire assy. w/connector to solenoid grounding screw (red wire); wire assy w/connector to engine ground shut-off (green wire); plastic protector tube; wire terminal .....	1	14	725-1706	Battery, 270 CCA .....	1
				15	736-0119	Lock Washer 5/16 .....	2
				16	736-0147	Lock Washer, #10 .....	1
				17	736-0607	External Lock Washer, 5/16.....	2
				18	GW-2614	Keyswitch Clamp .....	1
				19	96510	Cable (solenoid to starter motor) .....	1
				20	96514	Solenoid (Incl. nuts and washers for cables and wires) .....	1
				21	97020	Boot, Insulating .....	2
				22	9853	Hex Locknut, #10-32.....	1
				—	777S30648	Label, Ignition Switch.....	1