



Parts Manual



6HP Rear Tine Tillers And Attachment

6HP Product

Mfg. No.	Description
1693704	616RT, 6HP Rear Tine Tiller

Attachment

Mfg. No.	Description
1692878	Hiller / Furrower

1730818

Rev. 04/2009

TP 400-2488-01-RT-S

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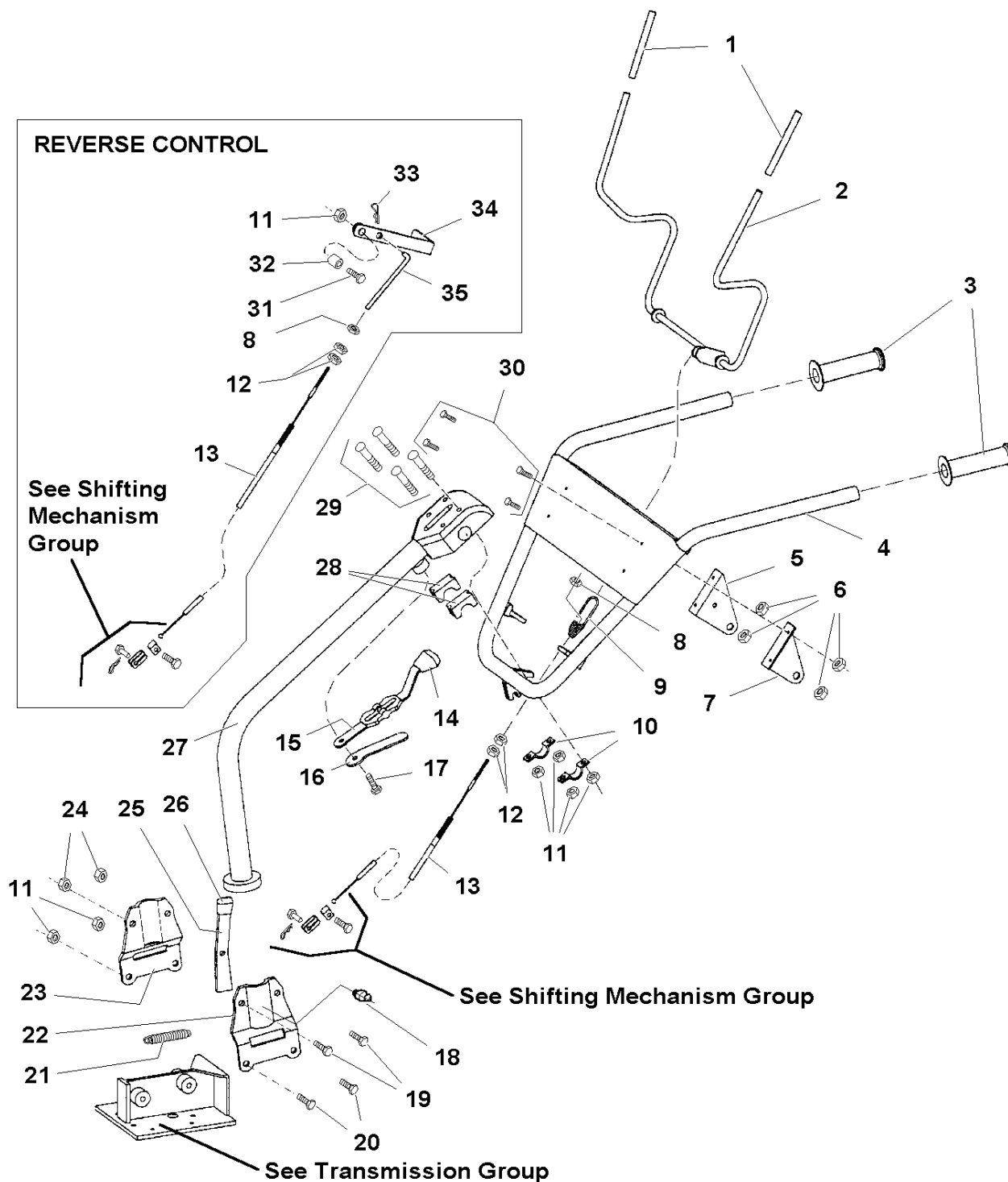
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Handle Bar Group

985769

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Mfg. Nos.:
1693704 - 616RT

Handle Bar Group

REF NO	PART NO.	QTY.	DESCRIPTION
1	1716699SM	2	HANDLE GRIP, Drive Control Lever
2	1716721SM	1	LEVER, Drive Control Walk-Behind Tiller
3	1721516SM	2	GRIP, Handle Black
4	1716718SM	1	HANDLE BAR ASSEMBLY
5	1716722SM	1	BRACKET, Drive Control Lever, RH
6	1716732SM	4	NUT, Hex Nylock
7	1716723SM	1	BRACKET, Drive Control Lever, LH
8	1933896SM	2	NUT, Hex Nylock
9	1716720SM	1	SPRING, Forward Cable Adjustment
10	1716709SM	2	CLAMP, Handle Bar Tilt
11	1935048SM	7	NUT, Hex Flange 5/16"- 18
12	2820438SM	4	NUT, Hex Jam 5/16"
13	1719037SM	2	CABLE ASSEMBLY
14	1716708SM	1	KNOB, Handle Bar Tilt Lever
15	1716707SM	1	LEVER, Handle Bar Tilt
16	1716714SM	1	STOP, Handle Bar Tilt Lever
17	1716715SM	1	CAPSCREW, Hex Head, 8MM x16MM
18	1716855SM	1	FITTING, Lube
19	1716716SM	2	CAPSCREW, Hex Head, 10MM x 30MM
20	1923141SM	2	CAPSCREW, 5/16"- 18 x 2-3/4" G5
21	1716710SM	1	SPRING, Handle Bar Swivel
22	1716719SM	1	MOUNT, Handle Bar Stem, LH
23	1716706SM	1	MOUNT, Handle Bar Stem, RH
24	1716717SM	2	NUT, Hex Nylok 10MM
25	1716712SM	1	LEVER, Handle Bar Swivel Walk-Behind Tiller
26	1716711SM	1	KNOB, Handle Bar Swivel Lever
27	1716713SM	1	STEM, Handle Bar
28	1716705SM	2	FRICTION PAD, Tilt
29	1931339SM	4	CARRIAGE BOLT, 5/16"- 18 x 2" G5
30	1716731SM	4	CAPSCREW, Hex Head, 5MM X .8MM X 10MM
31	1921978SM	1	CAPSCREW, Hex Head 5/16-18 x 2 G5
32	1716704SM	1	BUSHING, Pivot 5/16"
33	1716703SM	1	PIN, Cotter
34	1716725SM	1	HANDLE, Reverse
35	1716729SM	1	LINK, Reverse

Footnotes

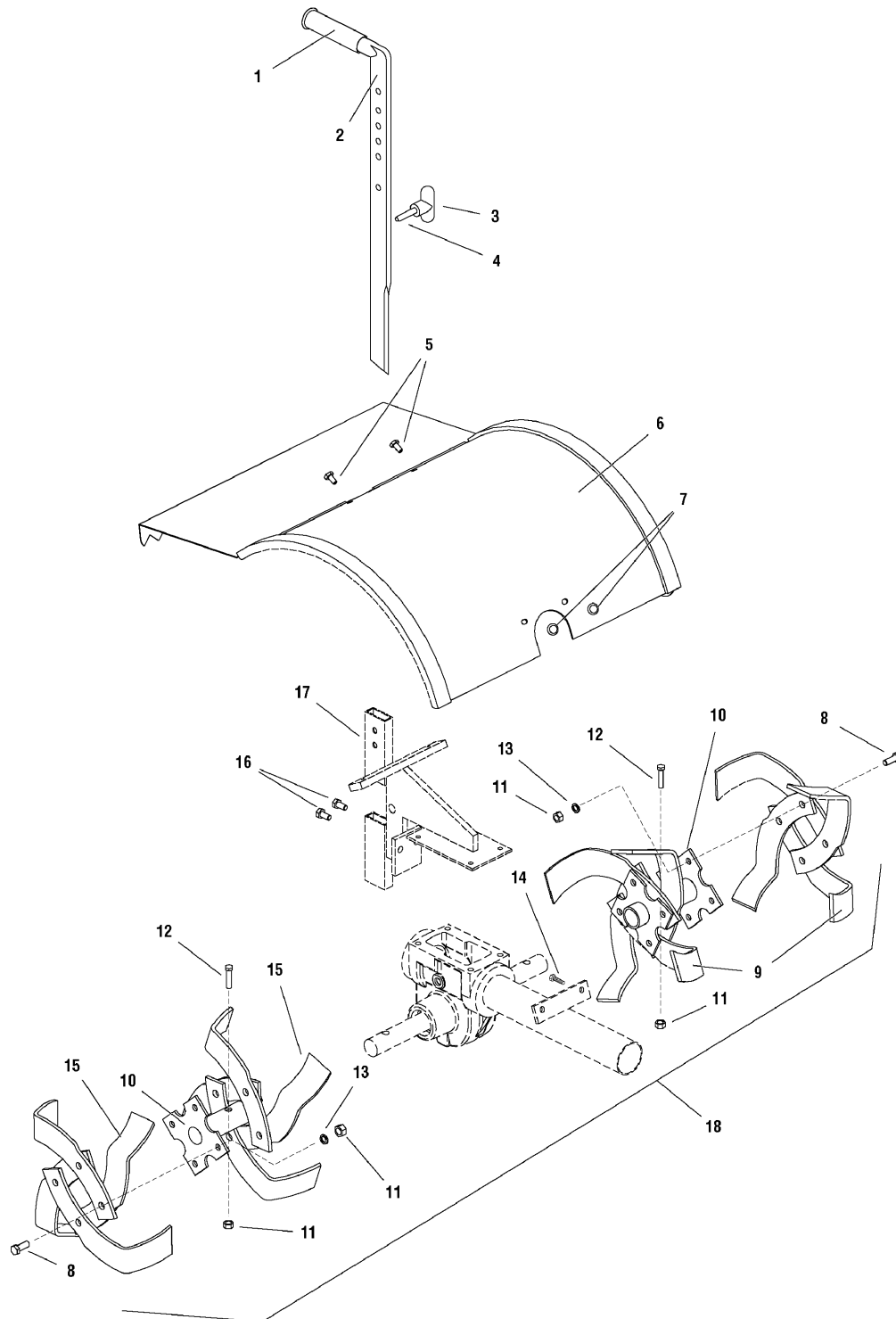
The above parts group applies to the following Mfg. Nos.:

1693704 - 616RT

Hood, Drag Stake & Tine Group

985768

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.



The above parts group applies to the following Mfg. Nos.:

1693704 - 616RT

Hood, Drag Stake & Tine Group

REF NO	PART NO.	QTY.	DESCRIPTION
1	1719038SM	1	GRIP, Handle, Black
2	1716745SM	1	LEVER, Drag Stake, Walk-Behind Tiller
3	1716743SM	1	KNOB, T Handle, Drag Stake
4	1716742SM	1	PIN, DETENT, 5/16"- 18 x 1"
5	1921958SM	2	CAPSCREW, 1/4"- 20 x 1/2" G5
6	1721515SM	1	HOOD
7	1935048SM	2	NUT, Hex Flange 5/16"- 18 Two, Way Lock
8	1921210SM	16	CAPSCREW, 3/8"- 16 x 1" G5
9	1716739SM	8	TINE BLADE, Left Side
10	1716741SM	2	HOLDER, Tine Blade LH+RH
11	1916950SM	18	NUT, Hex 3/8"- 16NC
12	1921971SM	2	CAPSCREW, 3/8"- 16 x 1-3/4" G5
13	1916965SM	16	LOCKWASHER, Spring 3/8"
14	1921333SM	2	CAPSCREW, 5/16"- 18 x 1" G5
15	1716737SM	8	TINE BLADE, Right Side
16	1716701SM	2	CAPSCREW, Hex Flange Head, 5/16"- 18 x 1/2"
17	1721511SM	1	BRACKET, Depth Regulator RT
18	1716749SM	1	REPLACEMENT KIT, Tine Blade Holder

Footnotes

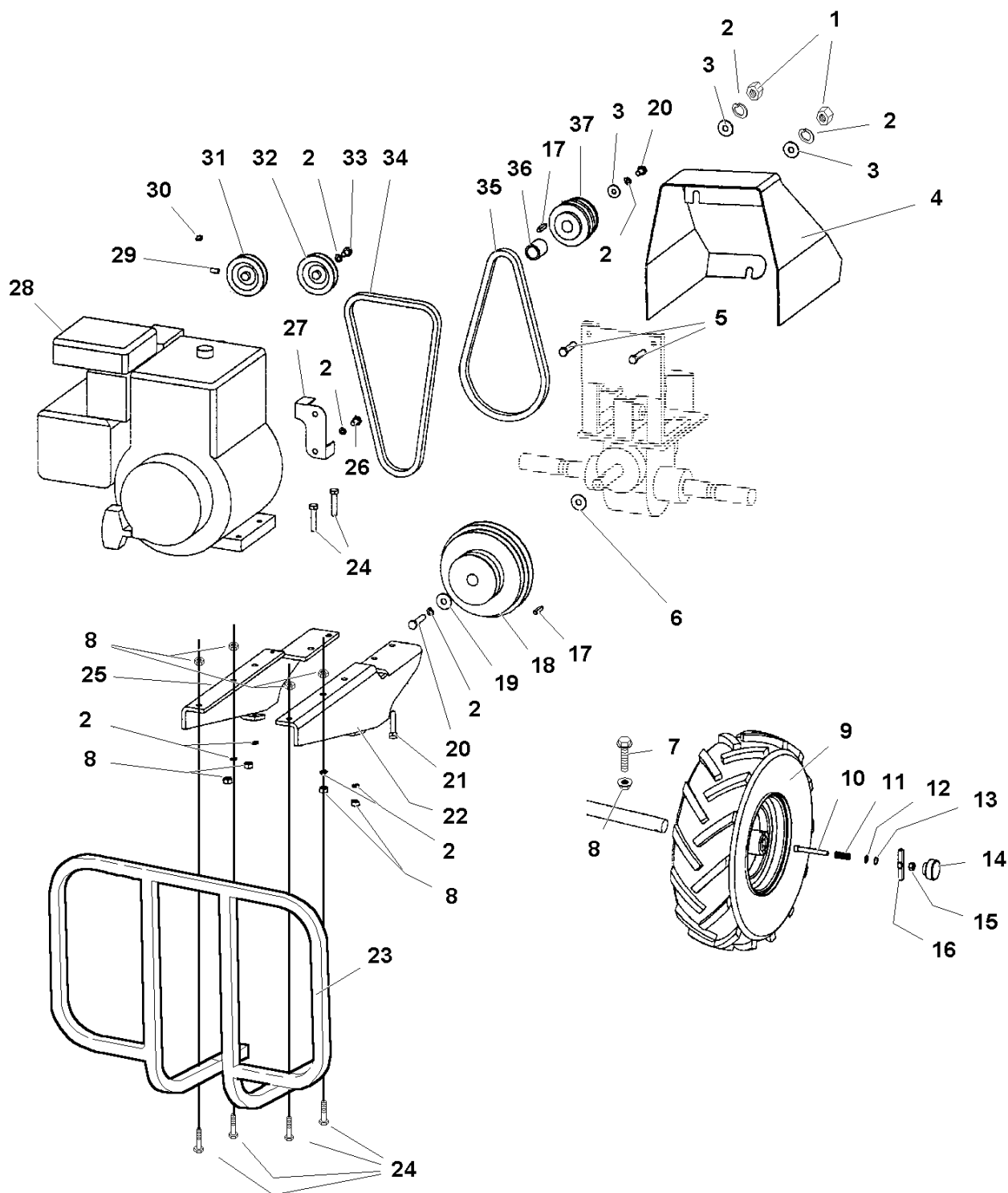
The above parts group applies to the following Mfg. Nos.:

1693704 - 616RT

Engine Mount, Belts & Wheels Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.

985767



The above parts group applies to the following Mfg. Nos.:

1693704 - 616RT

Engine Mount, Belts & Wheels Group

REF NO	PART NO.	QTY.	DESCRIPTION
1	1917372SM	2	NUT, Hex 5/16" - 18
2	1917356SM	10	LOCKWASHER, Spring 5/16"
3	1960044SM	2	WASHER, 5/16"
4	1716784SM	1	COVER, Belt
5	1921978SM	2	CAPSCREW, Hex Head 5/16-18 x 2 G5
6	2860164SM	1	WASHER, 5/8"
7	1921332SM	2	CAPSCREW, Hex Flange Head, 5/16"- 18 x 3/4"
8	1935048SM	10	NUT, Hex Flange 5/16"- 18 Two, Way Lock
9	1716773SM	1	WHEEL & TIRE ASSEMBLY, Tiller LH
9	1716775SM	1	WHEEL & TIRE ASSEMBLY, Tiller RH
10	1716782SM	2	CAPSCREW, Hex Socket Head, 1/4"- 20 x 2-5/32"
11	1716781SM	2	SPRING
12	1960151SM	2	WASHER, 1/4"
13	1716779SM	2	RING, Snap
14	1716777SM	2	KNOB, Wheel Lock Out
15	2828372SM	2	NUT, Hex Keps 1/4" - 20
16	1716778SM	1	KNOB, Lock Out Set of Two
17	2805850SM	2	KEY, Parrallel
18	1716769SM	1	PULLEY, Transmission
19	1716770SM	2	WASHER
20	1921515SM	2	CAPSCREW, 5/16"- 24 x 3/4" G5
21	1960470SM	4	CAPSCREW, Hex Socket Head, 5/16"- 18 x 11/4" G8
22	1716753SM	1	BRACKET, Engine Mount LH
23	1721528SM	1	BUMPER, Guard
24	1922127SM	8	CAPSCREW, 5/16"- 18 x 1 3/4" G5
25	1716752SM	1	BRACKET, Engine Mount RH
26	1716756SM	1	CAPSCREW, 5/16"- 24 x 1/2"
27	1721527SM	1	GUIDE, Belt Forward
28	*	1	ENGINE, 6HP Briggs & Stratton - Engine Model 120492, Engine Type 0119-E1
29	1716758SM	1	SCREW, Set 1/4"- 20 x 1/4"
30	2805121SM	1	KEY, Woodruff
31	1716757SM	1	PULLEY, Engine, Reverse
32	1716761SM	1	PULLEY
33	1716760SM	1	CAPSCREW, Hex Head, 5/16"- 24 x 1-1/2"
34	1721523SM	1	V-BELT, Reverse
35	1716766SM	1	V-BELT, Forward
36	1716762SM	1	SPACER, Engine Pulley
37	1716764SM	1	PULLEY, Engine, Forward

Footnotes

Note* See your local Briggs & Stratton distributor for Parts & Service.

The above parts group applies to the following Mfg. Nos.:

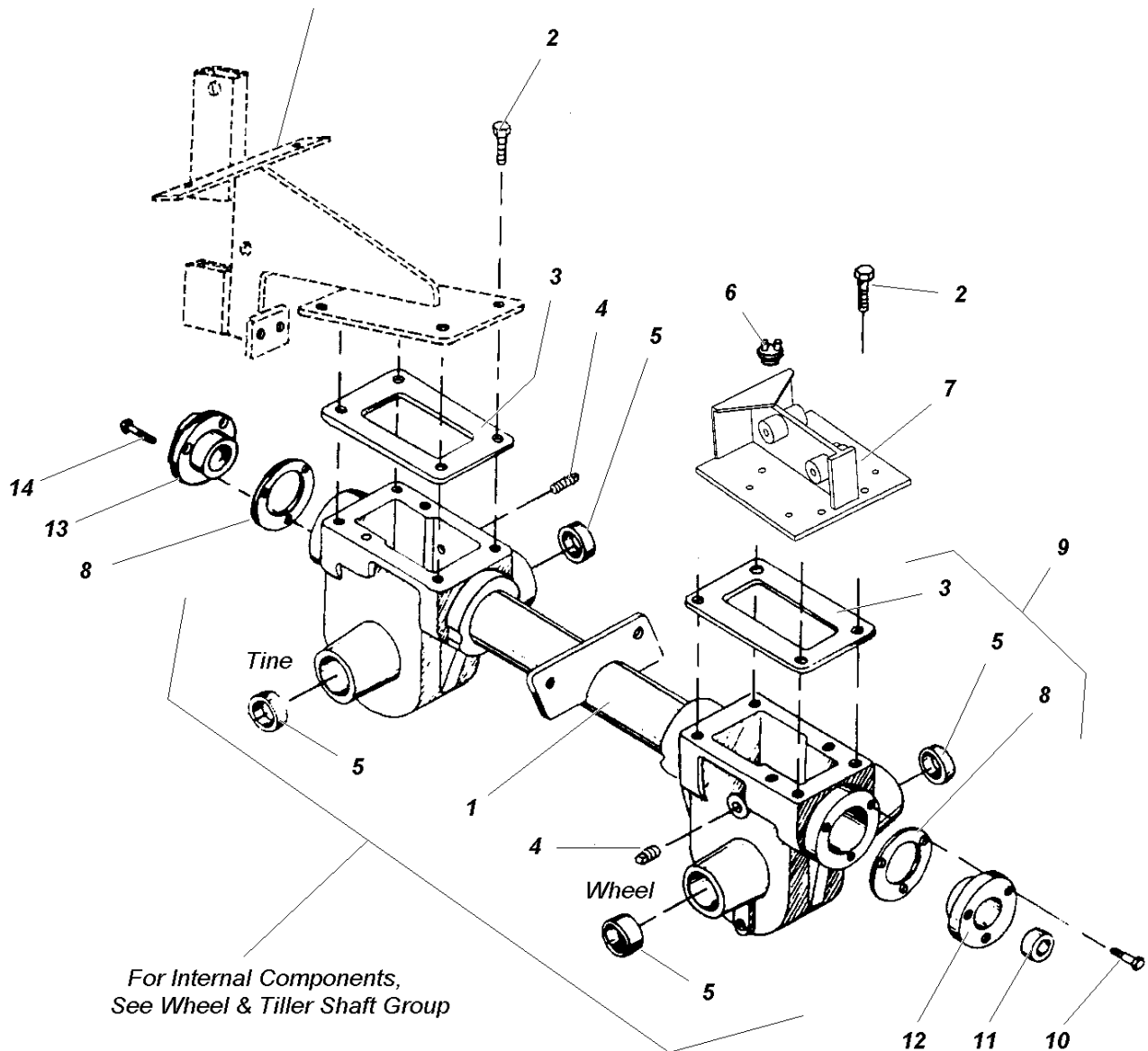
1693704 - 616RT

Transmission Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.

985159

See Hood, Drag Stake & Bolo Tines Group



The above parts group applies to the following Mfg. Nos.:

1693704 - 616RT

Transmission Group

REF NO	PART NO.	QTY.	DESCRIPTION
1	1716788SM	1	TRANSMISSION ASSEMBLY
2	1921332SM	8	CAPSCREW, Hex Flange Head, 5/16"- 18 x 3/4"
4	1716790SM	2	PLUG, Pipe Socket Head 1/4"- 18, Oil Check
6	1716794SM	1	PLUG, Oil Fill
7	1716724SM	1	COVER, Transmission Wheel Housing
9	1716799SM	1	GASKET KIT, Oil Seal (Includes Ref. Nos. 3, 5, and 8)
3	1716789SM	2	GASKET, Housing & Transmission Cover
5	1716791SM	4	SEAL, Housing 1506
8	1716792SM	2	GASKET, Bearing Cap Front, Rear
10	1716798SM	3	CAPSCREW, Hex Flange Head, 1/4"- 20 x 3/4"
11	1716797SM	1	SEAL, Oil Drive Shaft
12	1716796SM	1	CAP, Front Bearing
13	1716793SM	1	CAP, Rear Bearing
14	1716795SM	3	CAPSCREW, Hex Flange Head, 1/4"- 20 x 7/8"

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Footnotes

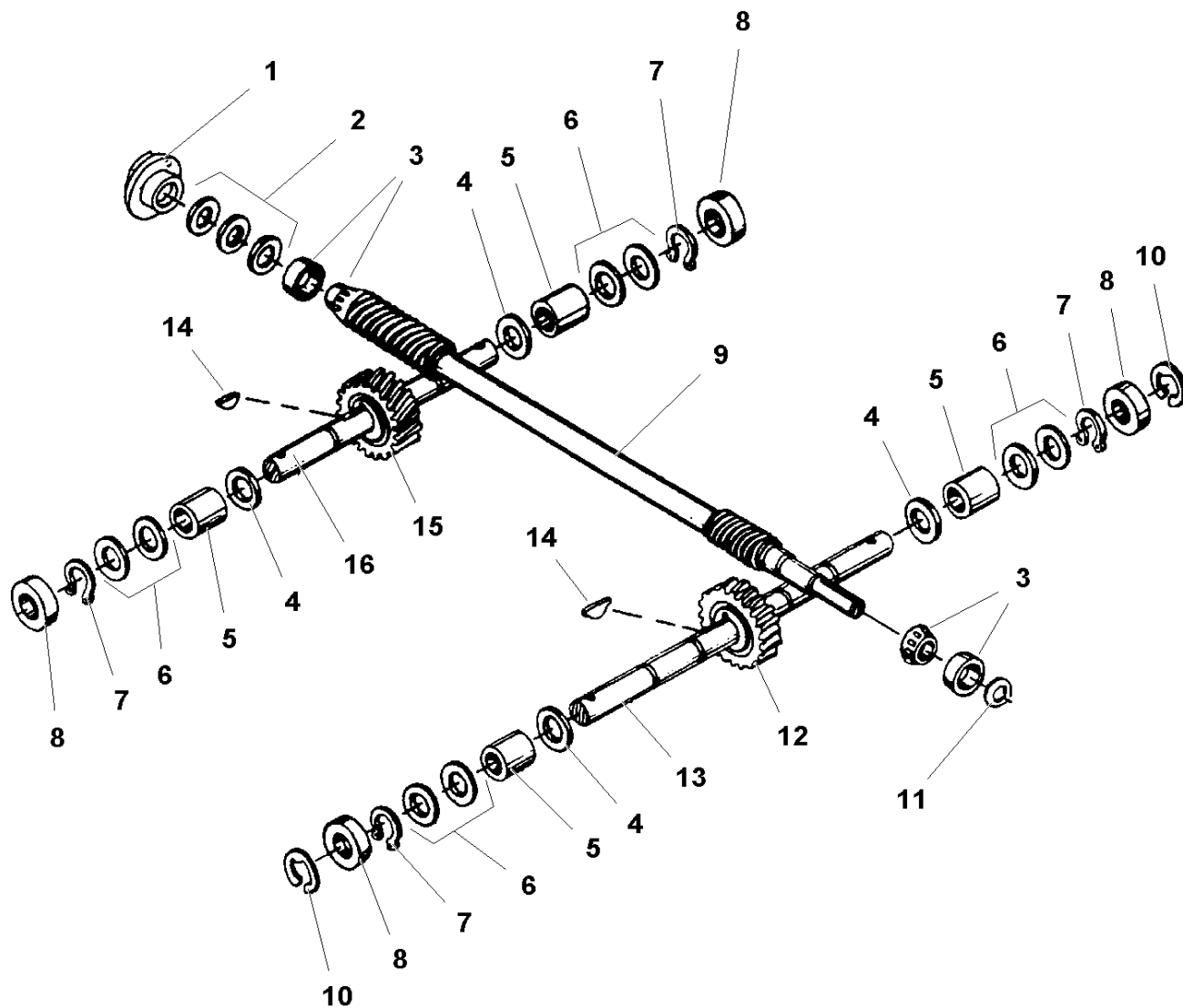
The above parts group applies to the following Mfg. Nos.:

1693704 - 616RT

Wheel & Tiller Shaft Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.

985155



The above parts group applies to the following Mfg. Nos.:

1693704 - 616RT

Wheel & Tiller Shaft Group

REF NO	PART NO.	QTY.	DESCRIPTION
1	1716793SM	1	CAP, Rear Bearing
2	1716825SM	1	SHIM SET, Rear Bearing Cap
2	1716826SM	1	SHIM, 0.062 Thickness x 1 3/4" (As Required)
2	1716827SM	1	SHIM, 0.030 Thickness x 1 3/4" (As Required)
2	1716828SM	1	SHIM, 0.015 Thickness x 1 3/4" (As Required)
2	1716829SM	1	SHIM, 0.010 Thickness x 1 3/4" (As Required)
3	1716810SM	2	BEARING, Tappered (Cone & Race)
4	1716824SM	4	SPACER, 1" x 1 1/4" x 0.062 Thickness
5	1716816SM	4	BUSHING
6	1716815SM	4	SHIM SET, Axle Spacer
6	1716817SM	1	SHIM, 0.062 Thickness x 1 3/8"
6	1716818SM	1	SHIM, 0.030 Thickness x 1 3/8"
6	1716819SM	1	SHIM, 0.015 Thickness x 1 3/8"
6	1716820SM	1	SHIM, 0.010 Thickness x 1 3/8"
7	1716830SM	4	RING, Snap Internal Retainer
8	1716791SM	4	SEAL, Housing
9	1716809SM	1	SHAFT, Main Drive
10	1716821SM	2	RING, Snap External Retainer
11	1716797SM	1	SEAL, Oil Drive Shaft
12	1716814SM	1	GEAR, Worm Wheel Shaft
13	1716812SM	1	SHAFT ASSEMBLY, Wheel w/Lock Pin 5HP
14	1716813SM	2	KEY, Parrallel Pin
15	1716823SM	1	GEAR, Worm Shaft
16	1716822SM	1	SHAFT ASSEMBLY

Footnotes

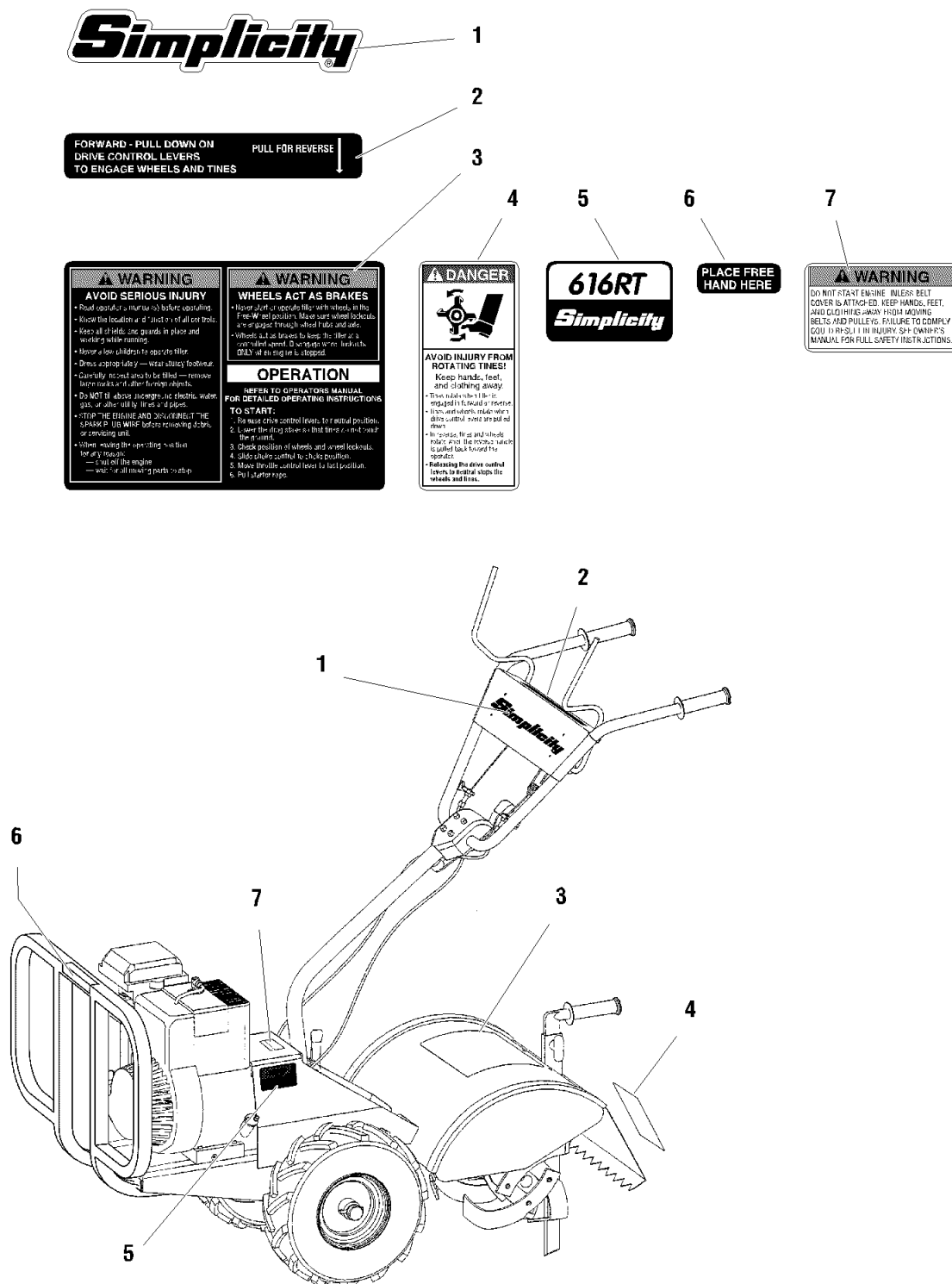
The above parts group applies to the following Mfg. Nos.:

1693704 - 616RT

Decal Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.

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The above parts group applies to the following Mfg. Nos.:

1693704 - 616RT

Decal Group

REF NO	PART NO.	QTY.	DESCRIPTION
1	1722551SM	1	DECAL, Simplicity
2	1716734SM	1	DECAL, Console Forward/Reverse Instructions
3	1716747SM	1	DECAL, Hood, Operator Instructions
4	1716840SM	1	DECAL, Tine Hood
5	1721504SM	2	DECAL, Belt Cover
6	1716839SM	1	DECAL, Brush Bar
7	1716800SM	1	DECAL, Warning, Blet Cover

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Footnotes

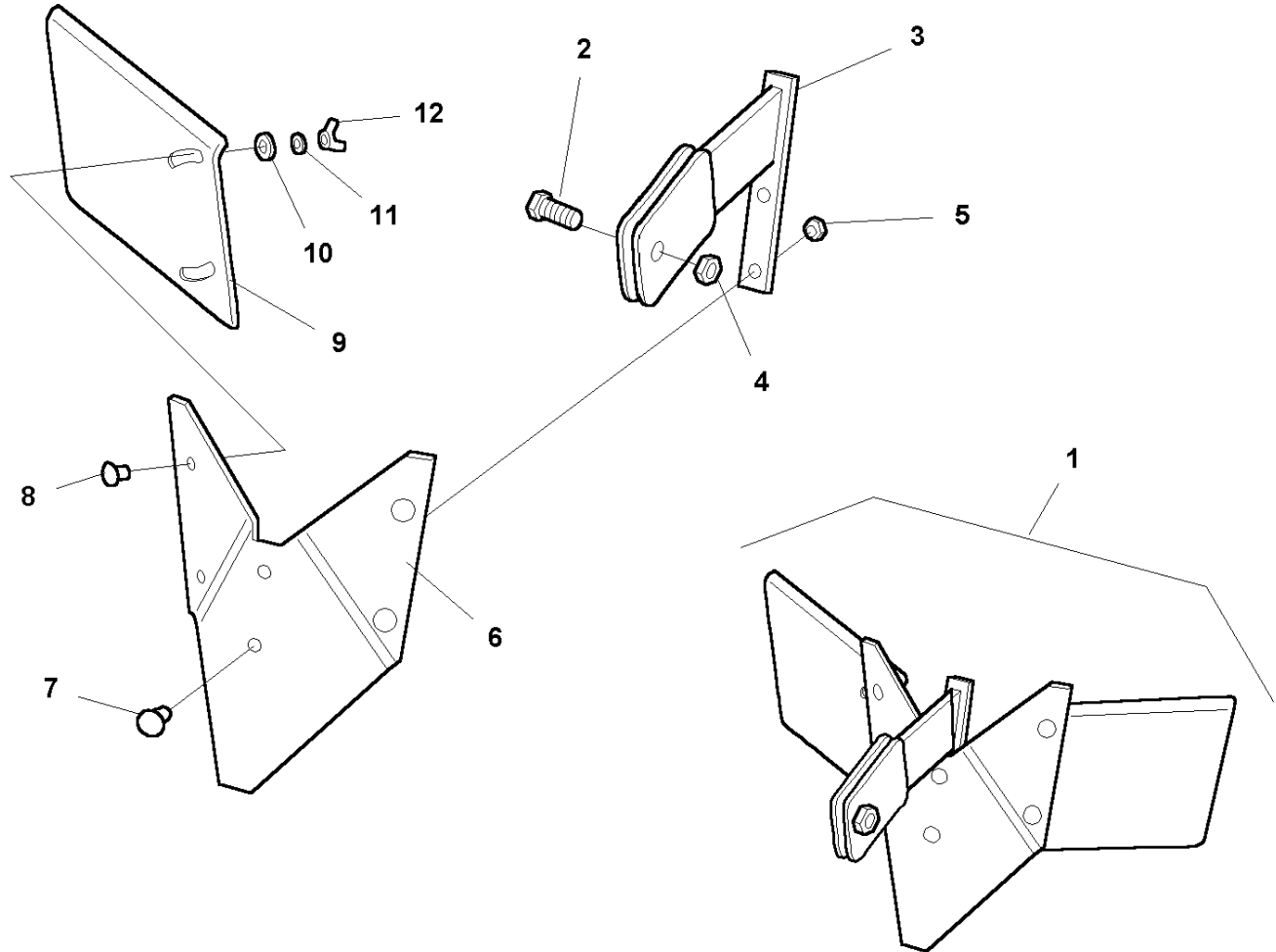
The above parts group applies to the following Mfg. Nos.:

1693704 - 616RT

Hiller/Furrower Attachment

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.

1692878



The above parts group applies to the following Mfg. Nos.:

1693704 - 616RT

Hiller/Furrower Attachment

REF NO	PART NO.	QTY.	DESCRIPTION
1	1686802SM	1	HILLER/FURROWER, Complete (Order as Wholegood)
2	*	1	BOLT, Socket Head, 3/8"-16 x 1-1/4"
3	*	1	BRACKET
4	*	1	NUT, Hex, 3/8" - 16
5	*	2	NUT, Nyloc, 3/8" - 16
6	*	1	BLADE, Furrower
7	*	2	CARRIAGE BOLT, 3/8 - 16 x 1-1/2"
8	*	4	CARRIAGE BOLT, 5/16" - 18 x 3/4"
9	*	1	HILLER WING, Left
9	*	1	HILLER WING, Right (Not Shown)
10	*	4	WASHER, Flat, 5/16"
11	*	4	LOCKWASHER, External Tooth, 5/16"
12	*	4	WING NUT, 5/16"- 18

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Footnotes

Note* No servicable parts - components shown for ref. only.

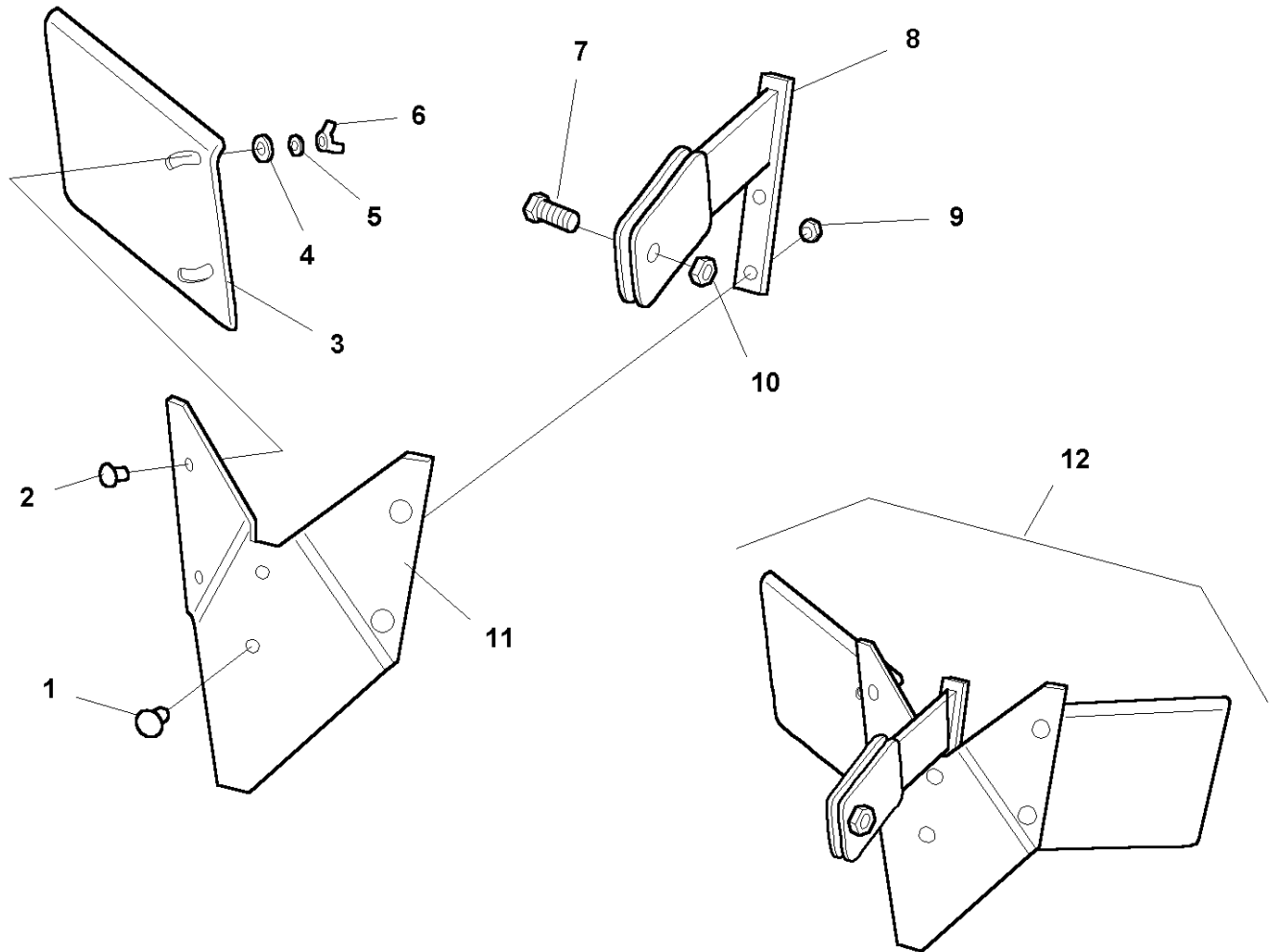
The above parts group applies to the following Mfg. Nos.:

1693704 - 616RT

Hiller/Furrower Attachment

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.

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The above parts group applies to the following Mfg. Nos.:

1692878 - Hiller / Furrower

Hiller/Furrower Attachment

REF NO	PART NO.	QTY.	DESCRIPTION
1	1931352SM	2	BOLT, Carriage, 3/8-16 x 1-1/2
2	1931333SM	4	BOLT, Carriage, 5/16-18 x 3/4
3	1723726SM	1	HILLER WING, Left
3	1723727SM	1	HILLER WING, Right (Not Shown)
4	1960044SM	4	WASHER, Flat, 5/16
5	2820426SM	4	LOCKWASHER, External Tooth, 5/16
6	1933126SM	4	WING NUT, 5/16-18
7	1960268SM	1	BOLT, Socket Head, 3/8-16 x 1-1/4
8	1723725SM	1	BRACKET
9	1919439SM	2	NUT, Nylock, 3/8-16
10	1916950SM	1	NUT, Hex, 3/8-16
11	1723724SM	1	BLADE, Furrower
12	1686802SM	1	HILLER / FURROWER ATTACHMENT, Complete

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Footnotes

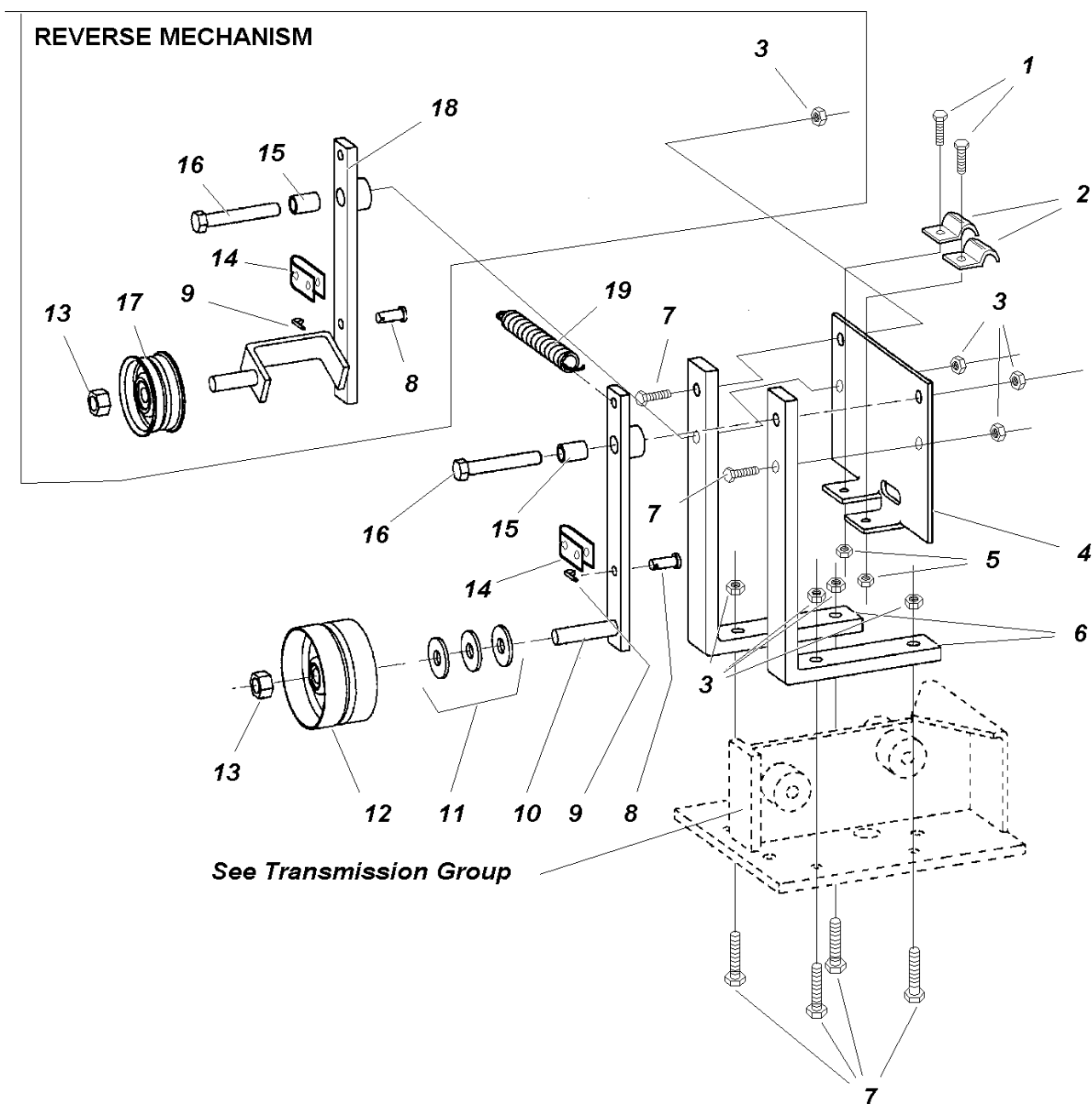
The above parts group applies to the following Mfg. Nos.:

1692878 - Hiller / Furrower

Shifting Mechanism Group

NOTE: Unless noted otherwise,
use the standard hardware torque
specification chart.

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The above parts group applies to the following Mfg. Nos.:

1693704 - 616RT

Shifting Mechanism Group

REF NO	PART NO.	QTY.	DESCRIPTION
1	1722326SM	2	CAPSCREW, 5MM x .8 x 16MM RT
2	1719063SM	2	C-CLAMP
3	1935048SM	9	NUT, Hex Flagne 5/16"- 18 Two, Way Lock
4	1721509SM	1	BRACKET, Cable Mount
5	1716732SM	2	NUT, Hex Nylok
6	1716801SM	2	BAR, Shift Mounting
7	1921977SM	6	CAPSCREW, 5/16"- 18 x 1-1/4" G5
8	1716702SM	2	PIN, Link Forward/Reverse
9	1716703SM	1	PIN, Cotter
10	1716804SM	1	ARM, Forward Idler
11	1924940SM	3	WASHER, 3/8"
12	1716803SM	1	PULLEY, Forward Idler
13	1916950SM	2	NUT, HEX 3/8"- 16
14	1716728SM	2	YOKE, Cable
15	1716704SM	2	BUSHING, Pivot, 5/16"
16	1921978SM	2	CAPSCREW, Hex Head 5/16-18 x 2 G5
17	1716803SM	1	PULLEY, Reverse
18	1721508SM	1	ARM, Idler Reverse
19	1716802SM	1	SPRING, Idler Arm

Footnotes

The above parts group applies to the following Mfg. Nos.:

1693704 - 616RT

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Hardware Identification & Torque Specifications

Torque Specification Chart								
FOR STANDARD METRIC MACHINE HARDWARE (Tolerance $\pm 20\%$)								
Property Class	 Class 5.6		 Class 8.8		 Class 10.9		 Class 12.9	
Size Of Hardware	in/lbs ft/lbs	Nm.	in/lbs ft/lbs	Nm.	in/lbs ft/lbs	Nm.	in/lbs ft/lbs	Nm.
M3	5.88	.56	13.44	1.28	19.2	1.80	22.92	2.15
M4	13.44	1.28	30.72	2.90	43.44	4.10	52.56	4.95
M5	26.4	2.50	60.96	5.75	5.97	8.10	7.15	9.7
M6	44.64	4.3	7.3	9.9	10.3	14	12.1	16.5
M7	5.2	7.1	12.1	16.5	16.9	23	19.9	27
M8	7.7	10.5	17.7	24	25	34	29	40
M10	15	21	35	48	50	67	59	81
M12	26	36	61	83	86.2	117	103	140
M14	42	58	101	132	136	185	162	220
M16	64	88	147	200	210	285	250	340
M18	89	121	202	275	287	390	346	470
M20	126	171	290	390	405	550	486	660
M22	169	230	390	530	559	745	656	890
M24	217	295	497	375	708	960	840	1140
M27	320	435	733	995	1032	1400	1239	1680
M30	435	590	995	1350	1401	1900	1681	2280
M33	590	800	1349	1830	1902	2580	2278	3090
M36	759	1030	1740	2360	2441	3310	2935	3980
M39	988	1340	2249	3050	3163	4290	3798	5150

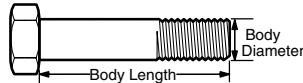
The guides and ruler furnished below are designed to help you select the appropriate hardware.



Nut, M8

Thread
Diameter (mm)
Inside
Diameter (in)
Threads
per inch

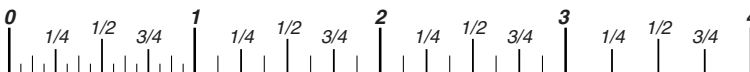
Nut, 1/2-16



Screw, M8- 1.25 x 25

Thread
Diameter (mm)
Body
Diameter
Distance between
threads (mm)
Threads
per inch
Body
Length (mm)
Body
Length (in)

Screw, 1/2- 16 x 2



Standard Hardware Sizing

When a washer or nut is identified as **1/2"** (M8), this is the *Nominal size*, meaning the *inside diameter* is 1/2 inch (8mm metric thread diameter); if a second number is present it represents the *threads per inch* (distance between threads).

When bolt or capscrew is identified as **1/2 - 16 x 2"** (M8 - 1.25 x 50), this means the *Nominal size*, or body diameter is 1/2 inch (8mm metric thread diameter), the second number, 16, represents the *threads per inch*, (1.25 thread diameter). The final number is the body length of the bolt or screw, 2 inches (50mm).

Torque Specification Chart						
FOR STANDARD MACHINE HARDWARE (Tolerance $\pm 20\%$)						
Hardware Grade	 SAE Grade 2		 SAE Grade 5		 SAE Grade 8	
Size Of Hardware	in/lbs ft/lbs	Nm.	in/lbs ft/lbs	Nm.	in/lbs ft/lbs	Nm.
8-32	19	2.1	30	3.4	41	4.6
8-36	20	2.3	31	3.5	43	4.9
10-24	27	3.1	43	4.9	60	6.8
10-32	31	3.5	49	5.5	68	7.7
1/4-20	66	7.6	8	10.9	12	16.3
1/4-28	76	8.6	10	13.6	14	19.0
5/16-18	11	15.0	17	23.1	25	34.0
5/16-24	12	16.3	19	25.8	29	34.0
3/8-16	20	27.2	30	40.8	45	61.2
3/8-24	23	31.3	35	47.6	50	68.0
7/16-14	30	40.8	50	68.0	70	95.2
7/16-20	35	47.6	55	74.8	80	108.8
1/2-13	50	68.0	75	102.0	110	149.6
1/2-20	55	74.8	90	122.4	120	163.2
9/16-12	65	88.4	110	149.6	150	204.0
9/16-18	75	102.0	120	163.2	170	231.2
5/8-11	90	122.4	150	204.0	220	299.2
5/8-18	100	136	180	244.8	240	326.4
3/4-10	160	217.6	260	353.6	386	525.0
3/4-16	180	244.8	300	408.0	420	571.2
7/8-9	140	190.4	400	544.0	600	816.0
7/8-14	155	210.8	440	598.4	660	897.6
1-8	220	299.2	580	788.8	900	1,244.0
1-12	240	326.4	640	870.4	1,000	1,360.0

NOTES

- These torque values are to be used for all hardware excluding: locknuts, self-tapping screws, thread forming screws, sheet metal screws and socket head setscrews.
- Recommended seating torque values for locknuts:
 - for prevailing torque locknuts - use 65% of grade 5 torques.
 - for flange whizlock nuts and screws - use 135% of grade 5 torques.
- Unless otherwise noted on assembly drawings, all torque values must meet this specification.

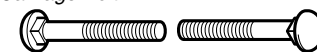
Common Hardware Types

Hex Head Capscrew



Washer

Carriage Bolt



Lockwasher



Hex Nut

Wrench & Fastener Size Guide

 1/4" Bolt or Nut Wrench—7/16"	 5/16" Bolt or Nut Wrench—1/2"	 3/8" Bolt or Nut Wrench—9/16"	 7/16" Bolt or Nut Wrench (Bolt)—5/8" Wrench (Nut)—11/16"	 1/2" Bolt or Nut Wrench—3/4"
M6 Bolt or Nut Wrench—10mm	M8 Bolt or Nut Wrench—13mm	M10 Bolt or Nut Wrench—17mm	M12 Bolt or Nut Wrench—19mm	M14 Bolt or Nut Wrench—22mm

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