

TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

CHASSIS ASSEMBLY

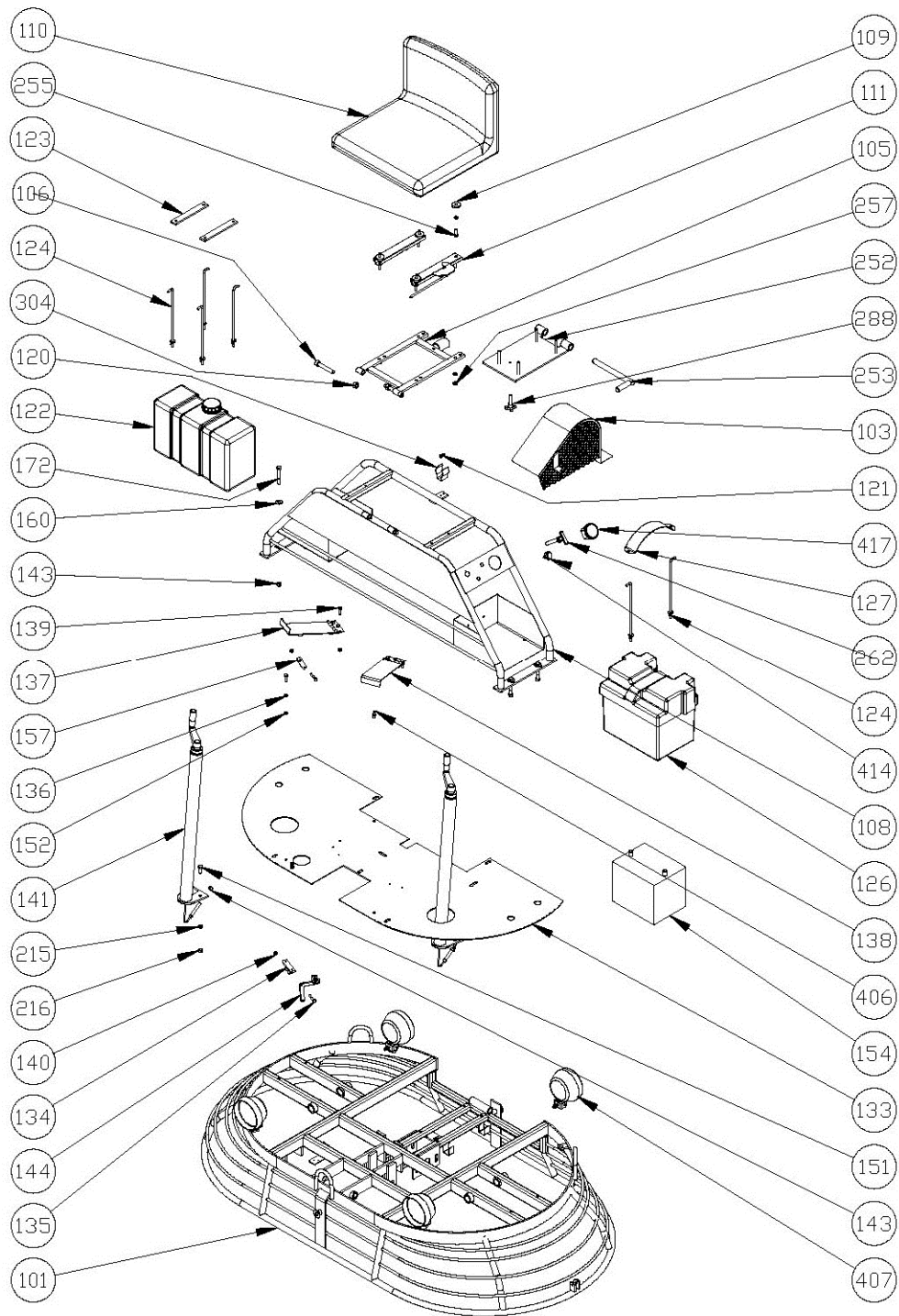


Figure 1 - Complete Chassis

TS65 RIDE-ON TROWEL INSTRUCTION MANUAL

CUSTOMER PARTS LIST

Chassis Assembly

*	Item #	Part #	Description	Qty	Eff. S/N	Eff. Date
	101	22598	TS 65 CHASSIS	1		06/06/06
	103	22592	BELT GUARD TS65	1		06/06/06
	105	13644	HINGED PLATE	1		06/06/06
	106	30012	HHCS 1/2 - 20UNC x 3"LG.	2		06/06/06
	108	14569	SEAT FRAME	1		06/06/06
	110	13641	SEAT	1		06/06/06
	111	12896	SEAT ADUSTER SET	1		06/06/06
	120	11592	BAR CLIP – SEAT CLIP	1		06/06/06
	121	11042	RIVET 3/16" DIA. x 1/2" LG.	2		06/06/06
	122	18156	FUEL TANK COMPLETE	1		06/06/06
	122a	18106	FUEL CAP (NOT SHOWN)	1		06/06/06
	122b	18126	CARBON CANISTER (NOT SHOWN)	1		06/06/06
	122c	18124	CANISTER BRACKET (NOT SHOWN)	1		06/06/06
	122d	18125	CANISTER STRAP (SET OF 2) (NOT SHOWN)	1		06/06/06
	123	10192	GAS TANK HOLD-DOWN BAR	2		06/06/06
	124	13839	HOLD DOWN BOLT KIT	3		06/06/06
	126	13192	BATTERY BOX-BLACK POLY	1		06/06/06
	127	13595	BATTERY CLAMP	1		06/06/06
	133	13128	TOP FLOOR PLATE	1		06/06/06
	134	22548	THROTTLE BRACKET	1		06/06/06
	135	12532	HHCS 1/4 - 20UNC x 1-1/2"LG	3		06/06/06
	136	10581	HEX NUT 1/4 - 20UNC	2		06/06/06
	137	22546	GAS PEDAL	1		06/06/06
	138	22547	SAFETY SWITCH PEDAL	1		06/06/06
	139	14596	HHCS 1/4 -20 x 5/8"	20		06/06/06
	140	30141	LOCKNUT 1/4 – 20UNC	9		06/06/06
	141	22605	PITCH CONTROL ASS'Y	2		06/06/06
	143	10317	3/8 – 16UNC LOCKNUT, NYLON	6		06/06/06
	144	13677	THROTTLE LINKAGE ARM	1		06/06/06
	151	10507	HHCS 3/8 – 16 UNC x 1"LG.	4		06/06/06
	152	10521	LOCKWASHER, 1/4" DIA.	2		06/06/06
	154	12538	BATTERY	1		06/06/06
	157	12970	THROTTLE ARM LINK	1		06/06/06
	160	10905	USS FLAT WASHER, 3/8 DIA.	4		06/06/06
	172	12737	HHCS 3/8 – 16 x 2-3/4"LG.	4		06/06/06
	215	10902	LOCKWASHER, 3/8"DIA.	4		06/06/06
	216	10901	HEX NUT 3/8 – 16 UNC	4		06/06/06
	228	10402	LOCKNUT 5/16"	8		06/06/06
	252	14831	ENGINE MOUNT PLAT	1		06/06/06
	253	13133	ENGINE MOUNTING PLATE PIN	1		06/06/06
	257	10915	HEX NUT, 5/16-18UNC, GRADE 5	4		06/06/06
	262	12417	CHOKE CONTROL	1		06/06/06
	288	11612	HAND KNOB ASSEMBLY	1		06/06/06
	304	12517	NYLOCK NUT, 1/2 - 20 UNF	2		06/06/06
	406	10724	SHUT-OFF SWITCH (B&S ENGINE)	1		06/06/06
	407	12528	LAMP 55 WATTS	4		06/06/06
	414	14377	SWITCH, ON/OFF, SPST, BLUE	1		06/06/06

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*	Item #	Part #	Description	Qty	Eff. S/N	Eff. Date
	417	12991	HOUR METER	1		06/06/06
	418	13862	THROTTLE CABLE	1		06/06/06
	419	11124	BALL JOINT	1		06/06/06
	420	22541	SAFETY SWITCH CABLE 57"	1		06/06/06
	---	13863	CLAMP FOR THROTTLE CABLE (not shown)	1		06/06/06

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POWERPLANT ASSEMBLY

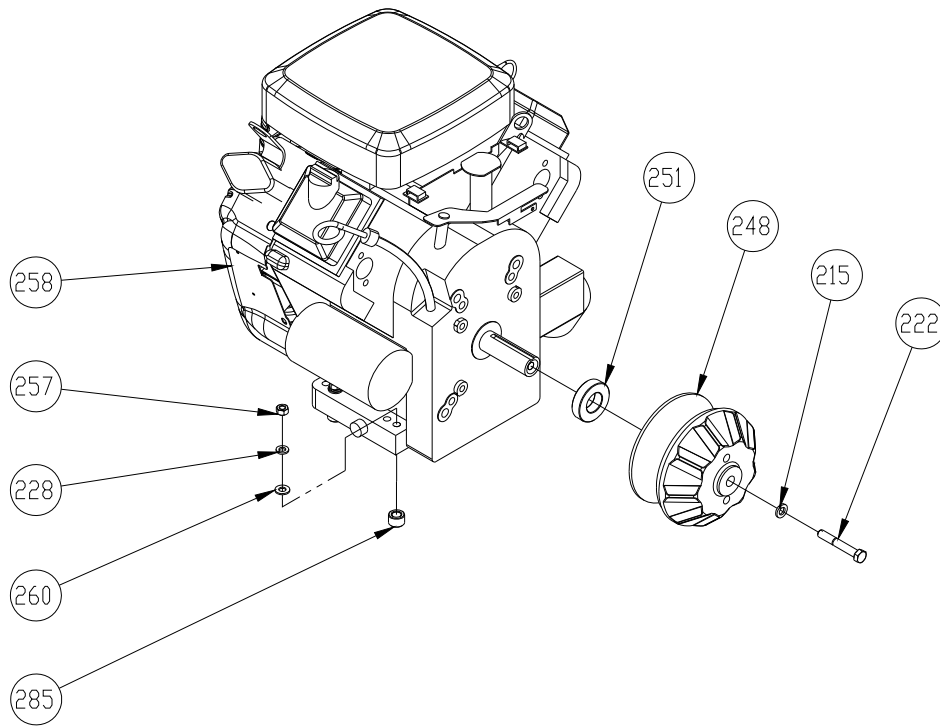


Figure 2 - Complete Powerplant

Item #	Description	Item #	Description
215	Lockwasher	257	Hex Nut
222	Hex Bolt	258	Engine
228	Locknut	260	Flat Washer
248	Drive CVT Pulley	285	Spacer
251	Clutch Spacer		

CUSTOMER PARTS LIST

Item #	Part #	Description	Qty	Eff. S/N	Eff. Date
215	10902	LOCKWASHER, 3/8"DIA.	1		06/06/06
222	10060	HHCS 3/8 – 24 UNF x 5"	1		06/06/06
228	10402	LOCKNUT, 5/16"DIA.	4		06/06/06
248	14707	DRIVE CVT PULLEY 0600-0025	1		06/06/06
251	12707	CLUTCH SPACER	1		06/06/06
257	10915	HEX NUT, 5/16 – 18 UNC, GRADE 5.	4		06/06/06
258	21364	B & S VANGUARD 18 ENGINE	1		06/06/06
	21311	B & S VANGUARD 21 ENGINE	1		06/06/06
260	10919	FLAT WASHER, 5/16" DIA.	4		06/06/06
285	10139	SPACER 1/2"	4		06/06/06

DRIVETRAIN ASSEMBLY

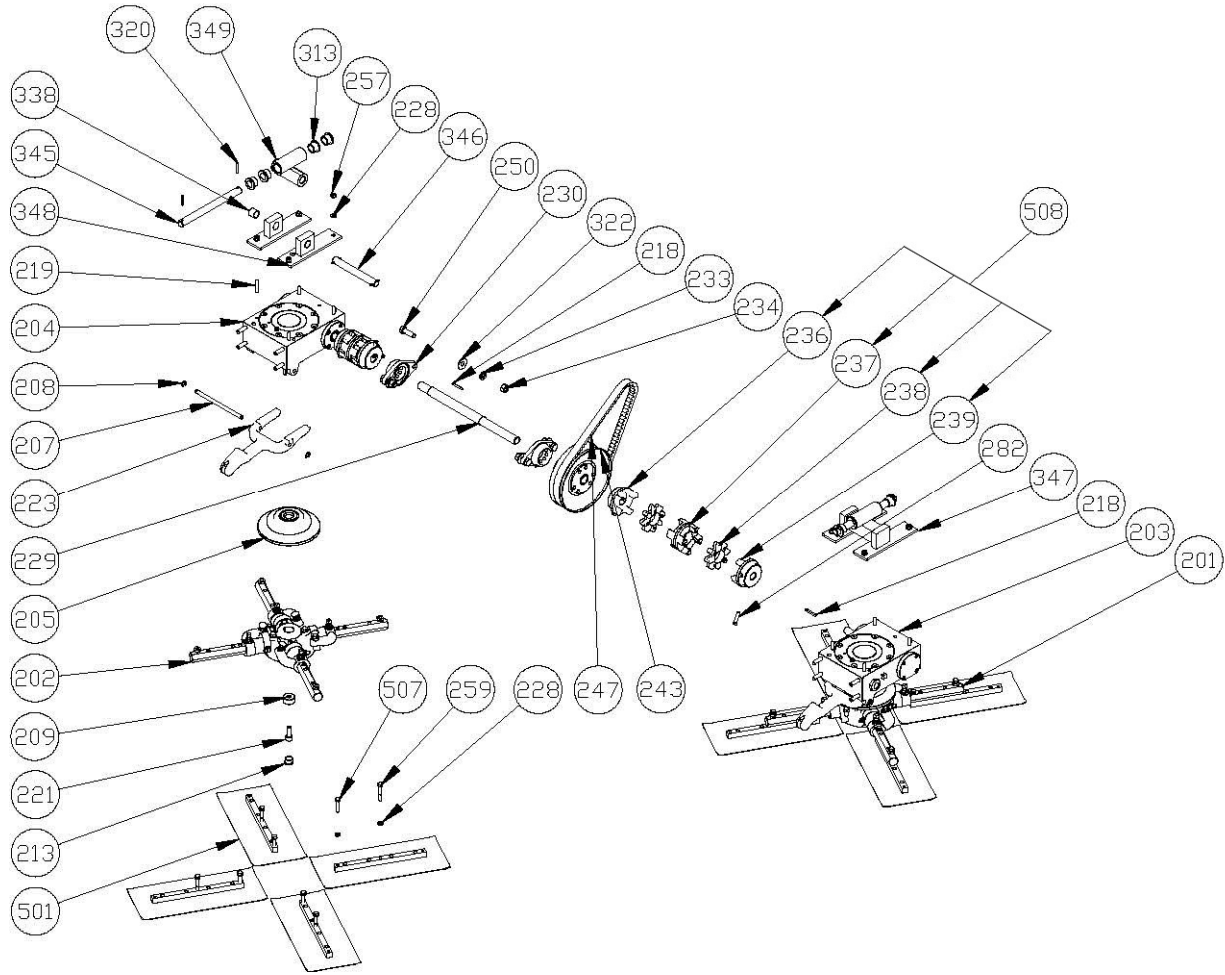


Figure 3 - Complete Drivetrain

Item #	Description	Item #	Description	Item #	Description
201	Spider Ass'y RH	228	Locknut	259	Hex Bolt
202	Spider Ass'y LH	229	Driveshaft	282	Socket Screw
203	Gearbox Ass'm LH	230	Flange Bearing	313	Flanged Bushing
204	Gearbox Ass'm RH	233	Lockwasher	320	Pin
205	Pressure Plate Ass'y	234	Hex Nut	322	Flat Washer
207	Pin	236	Short Coupling	338	Bronze Bushing
208	Retaining Ring	237	Coupling Centre Hub	345	Pin Shaft
209	Retainer	238	Coupling Spider	346	Cross Pin
213	Cap Plug	239	Short Coupling	347	Left Mtg. Plate Ass'y
218	Keystock	243	Drive Clutch	348	Rear Mtg. Plate Ass'y
219	Stud	247	Belt	349	Bushing
221	Socket Bolt	250	Hex Bolt	501	Trowel
223	Yoke Arm	257	Hex Nut	507	Hex Bolt

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CUSTOMER PARTS LIST

Drivetrain Assembly

Item #	Part #	Description	Qty	Eff. S/N	Eff. Date
201	20850	SPIDER ASSEMBLY TS65, CW: ROTATION	1		06/06/06
202	20849	SPIDER ASSEMBLY TS65, CCW: ROTATION	1		06/06/06
203	20965	LEFT SIDE GEARBOX ASSEMBLY, TS65, CW: ROTATION	1		06/06/06
204	20959	RIGHT SIDE GEARBOX ASSEMBLY, TS65, CCW: ROTATION	1		06/06/06
205	20627	PRESSURE PLATE ASSEMBLY SM	2		06/06/06
207	10923	PIN 3/8" DIA. x 7"LG.	2		06/06/06
208	10922	RETAINING RING, E-TYPE	4		06/06/06
209	10814	RETAINER, 29/64" ID	2		06/06/06
213	10823	CAP PLUG EC-12	2		06/06/06
218	10208	KEYSTOCK, 0.19SQ. X 1.50LG.	4		06/06/06
219	10927	STUD 5/16 x 1-1/2"LG.	8		06/06/06
221	10812	SHCS, 7/16-14 x 1-1/4"LG.	2		06/06/06
223	10312	YOKE ARM, SMALL	2		06/06/06
228	10402	LOCKNUT 5/16	24		06/06/06
229	13122	DRIVESHAFT 65	1		06/06/06
230	12453	FLANGE BEARING	2		06/06/06
233	10009	LOCKWASHER ,1/2" DIA.	4		06/06/06
234	12519	HEX NUT 1/2-13 UNC	4		06/06/06
236	13050	SHORT 1/2 COUPLING 7/8" BORE	2		06/06/06
237	12994	COUPLING CENTRE HUB	2		06/06/06
238	12932	COUPLING SPIDER	4		06/06/06
239	13051	SHORT 1/2 COUPLING 3/4" BORE	2		06/06/06
243	14708	DRIVEN CVT PULLEY 5500-0017	1		06/06/06
247	14711	BELT KM 52-6187-C	1		06/06/06
250	30019	HHCS 1/2 – 13 x 1-1/2"LG.	4		06/06/06
257	10915	HEX NUT, 5/16 – 18 UNC, GRADE 5	8		06/06/06
259	10403	HHCS 5/16 – 18 x 2"LG.	8		06/06/06
282	12931	SHSS 5/16 – 18 x 1-1/4"LG.	8		06/06/06
313	12968	FLANGED BUSHING	8		06/06/06
320	10315	PIN 3/16" DIA. x 1-1/4"LG.	6		06/06/06
322	12930	USS FLAT WASHER, 7/16" DIA.	4		06/06/06
338	12586	BRONZE BUSHING	2		06/06/06
345	12918	GEARBOX PIN SHAFT	2		06/06/06
346	12497	CROSS BUSHING SUPPORT PIN	1		06/06/06
347	22600	LEFT MOUNTING PLATE ASS'Y	1		06/06/06
348	22499	REAR MOUNTING PLATE ASS'Y	1		06/06/06
349	22474	REAR CROSS BUSHING ASS'Y	1		06/06/06
501	20414	6 x 14" TROWEL	8		06/06/06
507	10401	HHCS 5/16 - 18 UNC x 1 1/2"	8		06/06/06
508	13052	SHORT COUPLING ASSY., COMPLETE	2		06/06/06
509	12845	GREASE FITTING (not shown) FOR FLANGED BEARING 12453	2		06/06/06

STEERING ASSEMBLY

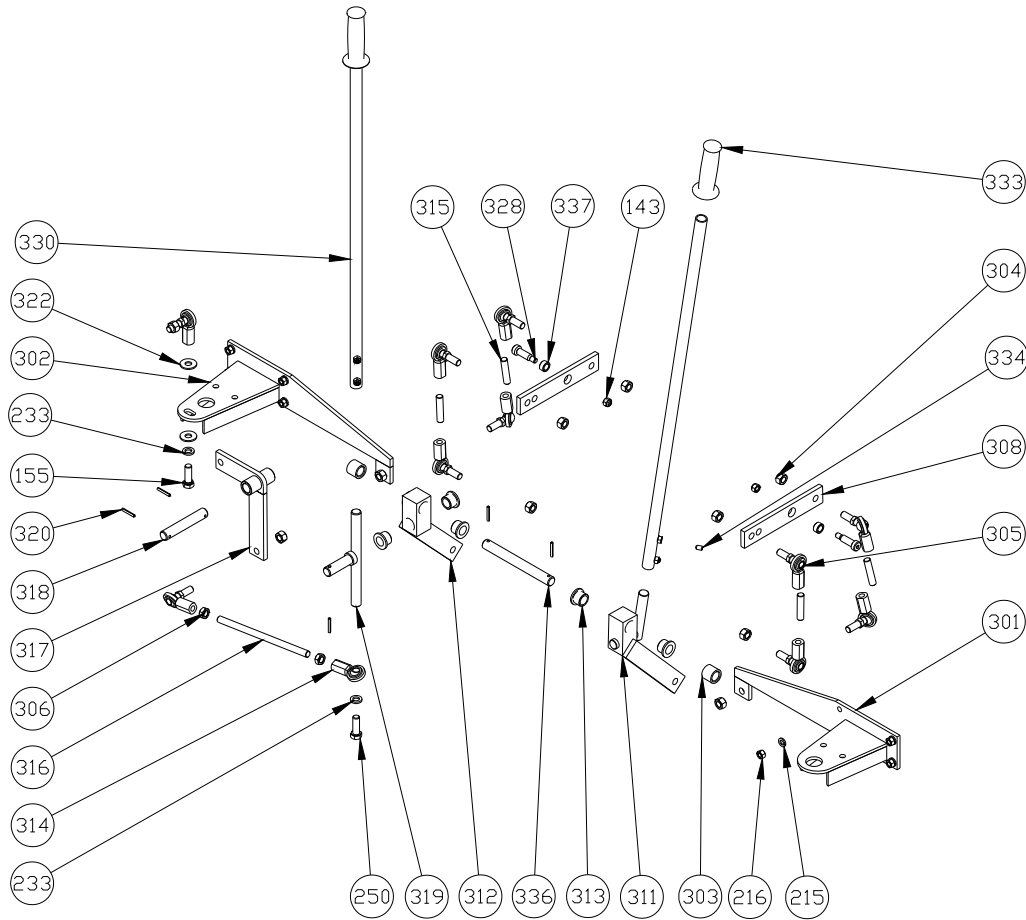


Figure 4 - Complete Steering

Item #	Description	Item #	Description	Item #	Description
143	Locknut	305	Rod End	318	Steering Pin
155	Hex Bolt	306	Hex Jam Nut	319	Steering Link
215	Lockwasher	308	Pivot Plate	320	Pin
216	Hex Nut	311	Left Steering Block	322	Flat Washer
233	LockWasher	312	Right Steering Block	328	Shoulder Bolt
250	Hex Bolt	313	Flanged Bushing	330	Hand Tube Ass'y
301	Left Control Arm	314	Rod End	333	Handle Grip
302	Right Control Arm	315	Threaded Rod	334	Socket Screw
303	Handle Spacer	316	Push Rod	336	Pin Shaft
304	Locknut	317	Lever	337	Bushing

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CUSTOMER PARTS LIST

Steering Assembly

	Item #	Part #	Description	Qty	Eff. S/N	Eff. Date
	143	10317	3/8-16UNC LOCKNUT, NYLON	2		06/06/06
	155	12516	HHCS 1/2 -20 x 1-1/2"LG.	1		06/06/06
	215	10902	LOCKWASHER, 3/8" DIA.	8		06/06/06
	216	10901	HEX NUT 3/8-16 UNC	8		06/06/06
	233	10009	LOCKWASHER, DIA. 1/2"	2		06/06/06
	250	30019	HHCS 1/2-13 x 1-1/2"LG.	1		06/06/06
	301	22601	LEFT CONTROL ARM	1		06/06/06
	302	22602	RIGHT CONTROL ARM	1		06/06/06
	303	12917	HANDLE SPACER	2		06/06/06
	304	12517	NYLON NUT, 1/2-20UNF	10		06/06/06
	305	12412	ROD END PIVOT ASS'Y	10		06/06/06
	306	12592	HEX JAM NUT 1/2-20 UNF	2		06/06/06
	308	12983	PIVOT PLATE	2		06/06/06
	311	22576	LEFT STEERING BLOCK	1		06/06/06
	312	22560	RIGHT STEERING BLOCK	1		06/06/06
	313	12968	FLANGED BUSHING	6		06/06/06
	314	12420	ROD END PIVOT ASS'Y – FEMALE	1		06/06/06
	315	12969	THREADED ROD 1/2-20 x 2-1/4"LG.	4		06/06/06
	316	13120	L/R PUSH ROD	1		06/06/06
	317	22530	L/R LEVER	1		06/06/06
	318	12921	STEERING PIN	1		06/06/06
	319	22577	RH STEERING LINK	1		06/06/06
	320	10315	PIN 3/16" DIA. x 1-1/4"LG.	5		06/06/06
	322	12930	USS FLAT WASHER, 7/16" DIA.	2		06/06/06
	328	12985	SHSB 1/2" SHLDR x 3/8-16 x 1-1/4"LG.	2		06/06/06
	330	22578	HAND TUBE ASS'Y	2		06/06/06
	333	10509	HANDLE GRIP	2		06/06/06
	334	50117	SHSS CUP PT 5/16-18UNC x 1/2"LG.	4		06/06/06
	336	13121	PIN SHAFT	1		06/06/06
	337	12984	BUSHING	2		06/06/06

GEARBOX ASSEMBLY

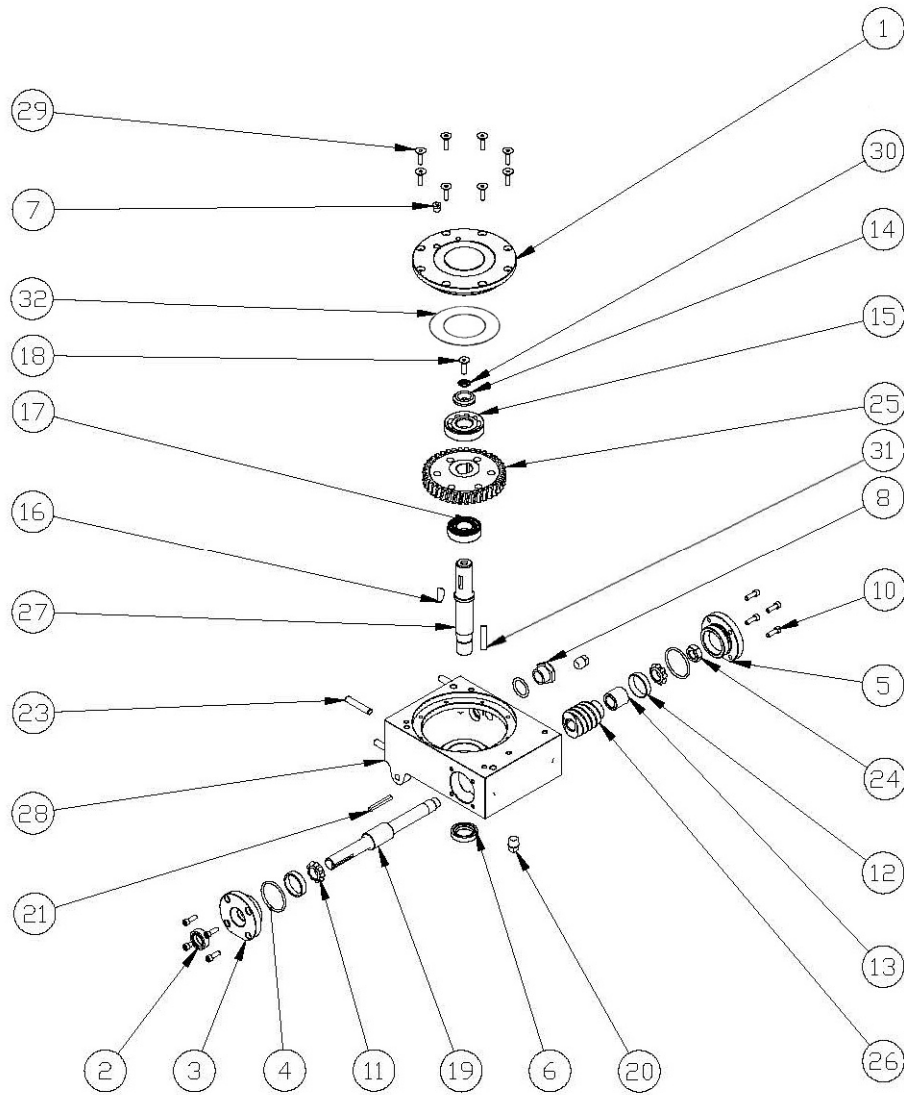


Figure 5 – Gearbox Assembly

Note: Right side gearbox shown.

Item #	Description	Item #	Description	Item #	Description
1	Gearbox Cover	11	Bearing Cup	21	Key
2	Oil Seal	12	Bearing Cone	22	Key
3	Small	13	Spacer	23	Stud
4	SM O-Ring	14	Pressure Washer	24	Locknut
5	End Cap	15	Bearing	25	Main Gear
6	Oil Seal	16	Woodruff Key	26	Worm
7	Relief Valve	17	Bearing	27	Main Shaft
8	Sight Plug	18	Flat Head Bolt	28	Gearbox
9	O-Ring	19	Counter Shaft	29	Flat Head Screw
10	Socket Bolt	20	Plug	30	Lockwasher

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CUSTOMER PARTS LIST

Gearbox Assembly

* Item #	CW 20965	CCW 20959	Description	Qty	Eff. S/N	Eff. Date
1	10917	10917	GEARBOX COVER	1		06/06/06
2	10678	10678	OIL SEAL	1		06/06/06
3	10217	10217	SMALL FLANGE	1		06/06/06
* 4	10227	10227	SM O RING	2		06/06/06
* 5	10260	10260	END CAP U/L	1		06/06/06
* 6	10677	10677	OIL SEAL	1		06/06/06
* 7	10909	10909	RELIEF VALVE	1		06/06/06
* 8	10930	10930	SIGHT PLUG	1		06/06/06
* 9	10931	10931	O RING, NO. 213	1		06/06/06
* 10	10213	10213	SHCS, 1/4-20 UNC x 3/4	8		06/06/06
11	10219	10219	BEARING CUP	2		06/06/06
* 12	10220	10220	BEARING CONE	2		06/06/06
* 13	10223	10223	SPACER	1		06/06/06
14	10613	10613	PRESSURE WASHER	1		06/06/06
15	10614	10614	BEARING	1		06/06/06
16	10615	10615	WOODRUFF KEY 8630 STEEL	1		06/06/06
17	10617	10617	BEARING	1		06/06/06
18	10601	10101	FHCS 3/8-16 UNC x 1" LG.	1		06/06/06
19	10261	10261	COUNTER SHAFT	1		06/06/06
20	10911	10911	PLUG 3/8 NPT	2		06/06/06
* 21	10206	10206	KEY 3/16"SQ.x 1-7/8" LG.	1		06/06/06
* 22	10651	10651	1/4"SQ.x 15/16" LG.	1		06/06/06
* 23	10910	10910	STUD 3/8-16 x 1-7/8" LG.	4		06/06/06
* 24	10262	10262	LOCKNUT 5/8-11 UNC	1		06/06/06
25	10649	10648	MAIN GEAR	1		06/06/06
26	10274	10273	RH WORM 8620	1		06/06/06
27	10650	10652	MAINSHAFT	1		06/06/06
28	10921	10921	GEARBOX	1		06/06/06
29	10916	10916	FHCS 1/4-20 x 3/4" LG.	8		06/06/06
30	10637	10637	3/8" CSK. LOCKWASHER	1		06/06/06
31	10608	10608	KEY, 1/4 SQ. x 1-5/32" LG	2		06/06/06
32	10937	10937	GASKET, .003	A/R		06/06/06
32A	10939	10939	GASKET, .005	A/R		06/06/06

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CUSTOMER PARTS LIST

Assembly # **22605**
PITCH CONTROL ASS'Y

*	Item #	Part #	Description	Qty	Eff. S/N	Eff. Date
	1	22538	PITCH CONTROL TUBE	1		06/06/06
*	2	22573	CRANK HANDLE ASSEMBLY	1		06/06/06
*	3	10303	SCREW SHAFT	1		06/06/06
*	4	10308	SLIDE BUSHING	1		06/06/06
	5	10307	RETAINER	1		06/06/06
	6	10306	WASHER 3/4" DIA.	1		06/06/06
	7	10305	BUSHING	1		06/06/06
	8	10304	BEARING 607V NICE	1		06/06/06
	9	12893	COUPLING HANDLE ASSEMBLY	1		06/06/06
	10	10315	PIN 3/16" DIA.x1-1/4" LG.	1		06/06/06
	11	10510	SHCS 1/4-20 x 3/8" LG.	1		06/06/06
	12	10309	SPRING PIN 3/16" DIA.x1-1/2" LG.	1		06/06/06
	13	10511	RHMS 1/4-20 x 3/8" LG. SLOTTED	1		06/06/06
	14	10521	LOCK WASHER, 1/4" DIA.	1		06/06/06
	15	13127	PITCH CONTROL CABLE	1		06/06/06
	16	22674	SHIM RING, 3/4" ID x 1 1/8" OD x .047	1		06/06/06
	17	10555	CAP PLUG	1		06/06/06

SPIDER PLATE ASSEMBLY

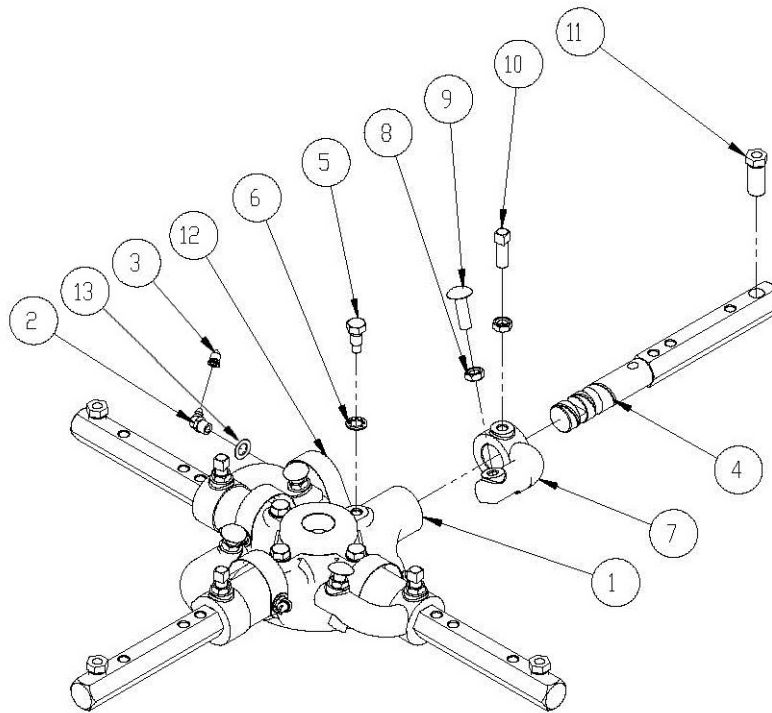


Figure 7 – Greased Spider Assembly (CCW Rotation Shown)

Item #	CCW 20849	CW 20850	Description	Qty	Eff. S/N	Eff. Date
1	10847	10810	SPIDER PLATE TS65	1		06/06/06
2	10801	10801	GREASE FITTING 1/8 NPT, 65 DEG	4		06/06/06
3	10822	10822	CAP PLUG, GREASE NIPPLE, RED	4		06/06/06
4	11405	11405	TROWEL ARM(SMALL)	4		06/06/06
5	10806	10806	HHCS 3/8-16 UNC x 7/8"	4		06/06/06
6	10805	10805	LOCK WASHER ø3/8" EXTERNAL TOOTH	4		06/06/06
7	10837	10817	LIFT LEVER	4		06/06/06
8	10808	10808	JAM NUT 3/8-16 UNC	8		06/06/06
9	10807	10807	CARRIAGE BOLT 3/8-16 UNC x 1-1/4"	4		06/06/06
10	10809	10809	SHSS, 3/16-16x1"LG, CUP POINT	4		06/06/06
11	10404	10404	ADJUSTING SCREW, 1-1/4" LG.	4		06/06/06
12	10848	10848	TROWEL ARM RETURN SPRING	4		06/06/06
13	10849	10849	FLAT WASHER 3/8"	4		06/06/06

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PRESSURE PLATE ASSEMBLY

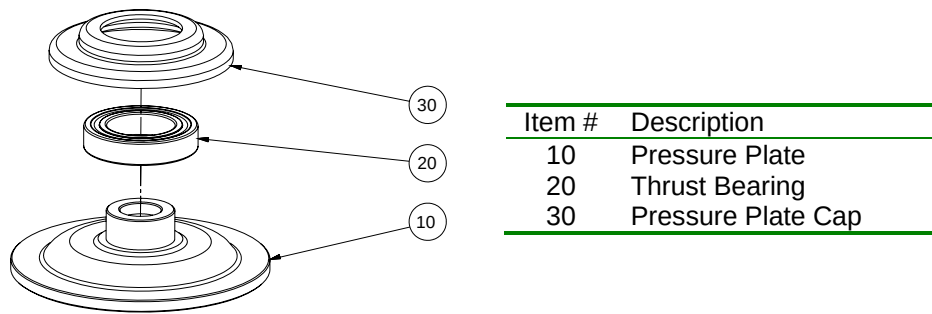


Figure 8 – Pressure Plate Assembly

Assembly # **20626**
Pressure Plate Assembly

Item #	Part #	Description	Qty	EFF. S/N	Eff. Date
10	10659	Large pressure plate	1		10/20/04
20	10663	Large thrust bearing 6010LLU-2A	1		10/20/04
30	10667	Large pressure plate cap	1		10/20/04

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TROWEL BLADE ASSEMBLY

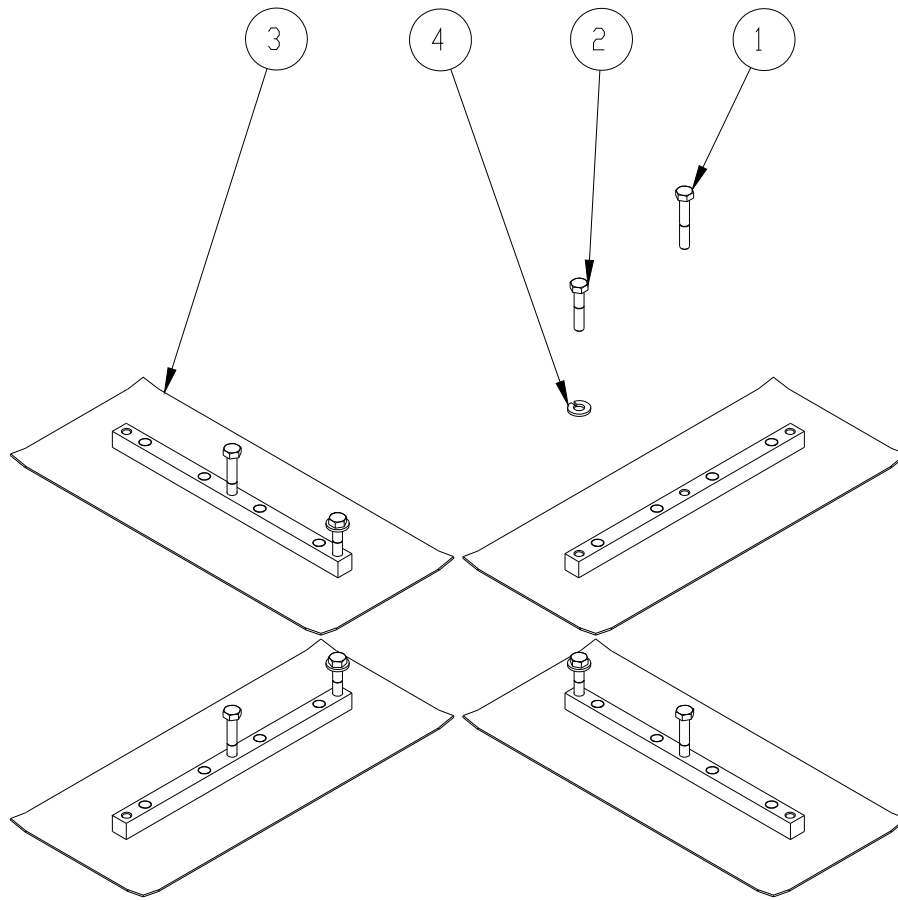


Figure 9 – Trowel Blade Kit

CUSTOMER PARTS LIST

*	Item #	Part #	Description	Qty	Eff. S/N	Eff. Date
	1	10403	HHCS 5/16-18 x 2" LG.	4		06/06/06
	2	10401	HHCS 5/16-18 x 1 1/2" LG.	4		06/06/06
	3	20414	6 x 14 TROWEL BLADE	4		06/06/06
	4	10402	LOCK WASHER ø5/16"	4		06/06/06

*	Item #	Part #	Description	Qty	Eff. S/N	Eff. Date
*	1	10453	HHCS M8x1.25x50 LG.	4		06/06/06
	2	10452	HHCS M8x1.25x40 LG.	4		06/06/06
	3	20457	6 x 14 METRIC TROWEL	4		06/06/06
	4	11614	LOCK WASHER 8mm	4		06/06/06

TRANSPORTER ASSEMBLY

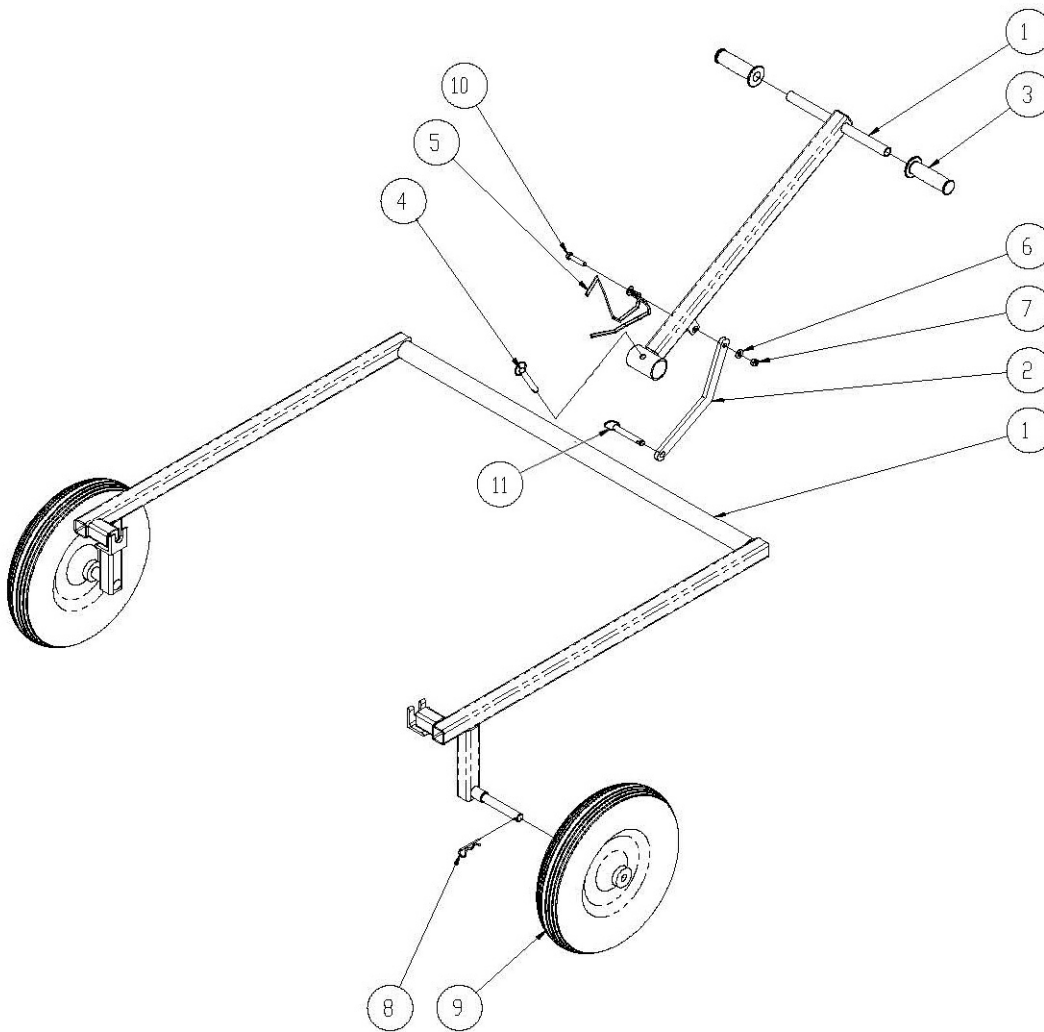


Figure 10 – TS65 Transporter

Item #	Description	Item #	Description
1	Transporter Frame Ass'y	7	Locknut
2	Linkage Arm	8	Cotter Pin
3	Handle Grip	9	Wheel
4	Hitch Pin – Large	10	Hex Bolt
5	Chain Link	11	SM Hitch Pin
6	Flat Washer		

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CUSTOMER PARTS LIST

Assembly # 22606
TRANSPORTER

*	Item #	Part #	Description	Qty	Eff. S/N	Eff. Date
	1	22620	TRANSPORTER FRAME	1		06/06/06
	2	22626	TRANSPORTER LINKAGE ARM	1		06/06/06
	3	10509	HANDLE GRIP	2		06/06/06
	4	12487	LG HITCH PIN, 3 -1/2	1		06/06/06
	5	12860	CHAIN LINK WITH 3/8" WASHER	1		06/06/06
	6	11200	FLAT WASHER, 3/8" DIA.	1		06/06/06
*	7	10317	NYLOCK NUT, 3/8-16 UNC	1		06/06/06
	8	50265	COTTER PIN 1/8" DIA.	2		06/06/06
	9	13198	WHEEL 16" DIA. x 4" HUB	2		06/06/06
	10	10959	HHCS 3/8-16 x 1-3/4"LG.	1		06/06/06
	11	12488	SMALL HITCH PIN 2 1/2"	1		06/06/06

TROUBLESHOOTING