

OPERATORS / PARTS MANUAL

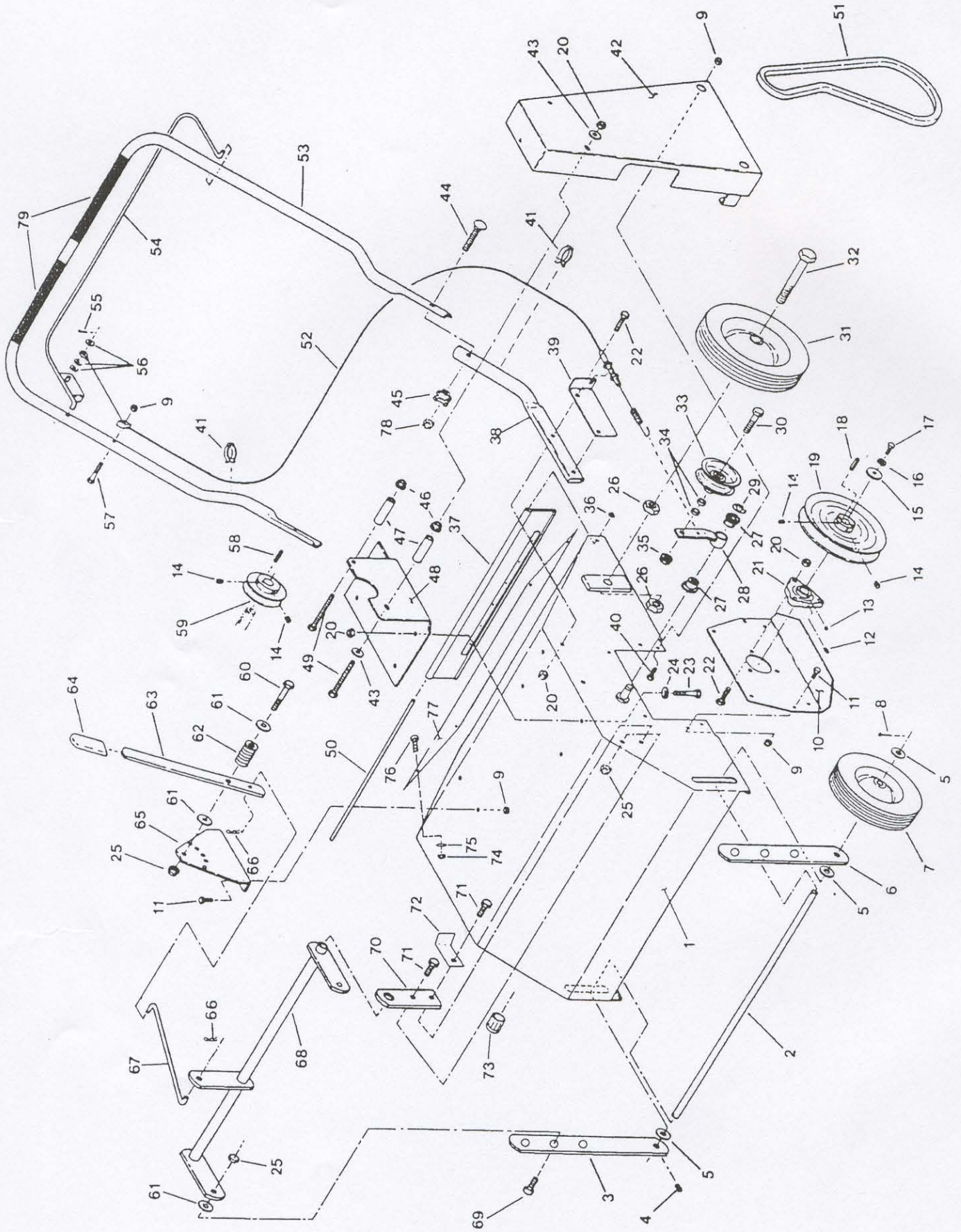
TR-20 TURF RAKE SERIAL NO. 002009 and up

TRC-20 TURF RAKE w/CATCHER SERIAL NO. 000190 and up

TS-20 TURF SEEDER SERIAL NO. 000721 and up

CLASSEN[®]
MANUFACTURING, INC.

1401 Logan St. Norfolk, NE 68701 Telephone (402) 371-2294 FAX (402) 371-3602



KEY	PART NO.	QTY PER MACH	DESCRIPTION	KEY	PART NO.	QTY PER MACH	DESCRIPTION
1	400179	1	Frame w/Decals, Rake/Seeder	41	100020	2	Tie, Nylon Cable
2	300027	1	Axle, Front	42	400032	1	Guard, Belt
3	300035	1	Support, R.H. Axle	43	500083	3	Washer, 5/16 Flat
*4	500066	1	Set Screw, 10-32 x 1/4	44	500166	2	Bolt, 3/8-16 x 3 All Thread Carriage
5	500034	4	Washer, 1/2 Flat	45	100059	2	Knob, Four Prong
6	300034	1	Support, L.H. Axle	46	500085	2	Nut, 5/16-18 Whizlock
7	100064	2	Wheel, 8"	47	300029	2	Spacer, 5/16 x 2
8	500062	2	Pin, 1/8 x 1-1/4 Cotter	48	300012	1	Pad, Engine
9	500068	15	Nut, 1/4-20 Nyloc	49	500086	2	Bolt, 5/16-18 x 3 Tap
10	300013	2	Plate, End	50	300028	1	Rod, 3/16 All Thread
11	500069	10	Bolt, 1/4-20 x 5/8	51	100065	1	Belt
12	500001	2	Grease Fitting, 1/4-28	52	100053	1	Cable Assembly, TR-20/TS-20 Clutch
*13	500063	4	Set Screw, 1/4-28 x 1/4	52	100225	1	Cable Assembly, TRC-20 Clutch
*14	500064	4	Set Screw, 5/16-18 x 3/8	53	300023	1	Handle, Upper Main
15	300025	1	Washer, Pulley Retainer	54	400034	1	Bail
16	500070	1	Washer, 1/4 Heavy Spring Lock	55	500087	1	Pin, 3/32 x 1/2 Cotter
17	500071	1	Bolt, 1/4-28 x 5/8	56	500088	3	Washer, 1/4 SAE Flat
18	500011	1	Key, 3/16 Square x 1 Machine	57	500118	1	Bolt, 1/4-20 x 1-3/4
**19	100058	1	Pulley, 7" Drive	58	500090	1	Key, 3/16 Square x 1-3/4 Machine
20	500072	16	Nut, 5/16-18 Nyloc	59	100057	1	Sheave
21	100050	2	Bearing, Flange	60	500091	1	Bolt, 3/8-16 x 2
22	500073	10	Bolt, 5/16-18 x 1-1/4	61	500042	4	Washer, 3/8 Flat
23	500074	4	Bolt, 5/16-18 x 1-3/4	62	500065	1	Spring, Compression
24	500075	4	Washer, 5/16 Disc Spring	63	300016	1	Lever, Height Adjustment
25	500076	7	Nut, 3/8-16 Nyloc	64	100007	1	Grip, Rubber
26	500077	4	Nut, 5/8-18 NF Jam	65	300017	1	Plate, Height Adjustment
27	100052	2	Bushing	66	500092	2	Cotter, Hair Pin
28	400035	1	Arm, Engagement	67	300026	1	Rod, Height Adjustment
29	500078	1	E-Ring	68	400033	1	Crank Assembly
30	500079	1	Bolt, 3/8-16 x 1-3/4	69	500134	2	Bolt, 3/8-16 x 1-1/4
31	100063	2	Wheel, 10"	70	300018	2	Mount, Height Adjustment
32	500080	2	Bolt, 5/8-18 NF x 4	71	500043	4	Bolt, 3/8-16 x 1
33	100072	1	Pulley w/Flanges, Idler	72	300036	1	Stop, Engagement Arm
34	300030	2	Bushing, Strut	73	100067	1	Guard, Main Shaft
35	500081	1	Nut, 3/8-16 Whizlock	74	500101	4	Nut, 5/16-18
36	500082	2	Nut, 3/16 Nyloc	75	500115	4	Washer, 5/16 Lock
37	300015	1	Drag Shield	76	500140	4	Bolt, 5/16-18 x 3/4
38	300022	2	Handle, Lower Main	77	300072	1	Plate, Frame
39	300024	1	Bracket, Clutch Cable	78	500167	2	Nut, 3/8-16 Two-Way Lock
40	500029	2	Bolt, 1/4-20 x 3/4	79	100261	2	Grip, 1 x 7-3/4 Rubber Handle

* Use ProLock Nut Type (.5 ml tube) on Threads

** Use ProLock Retaining 1 (.5cc tube) on Pulley Bore

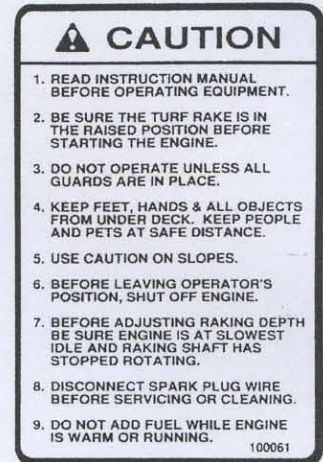
DECALS



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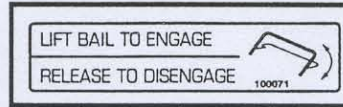
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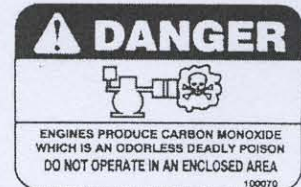
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SEED APPLICATION CHART					
THERESE SETTINGS ARE APPROXIMATE GUIDELINES. SEEDING RATES ARE SPEED DEPENDENT. FASTER SPEED DELIVERS LESS SEED.					
SEED TYPE	RATE LBS./ 1000 SQ. FT.	SETTING	SEED TYPE	RATE LBS./ 1000 SQ. FT.	SETTING
BENT GRASS	0.8	20	PERCUE	3.86	23
	1.5	23	(TALL)	4.88	26
	1.5	24		6.07	27
				7.83	30
BERMUDA	2.5	17			
	3.75	19			
BLUEDGRASS	2.13	18			
	4.26	19			
			HYDRGRASS	1.4	18
				2.18	18
				2.88	20
				4.8	22
				6.0	26
				7.0	27
				19	30
PERCUE (CREEPING)	2.86	22			
	3.5	26			
	4.96	27			
	6.56	28			
	7.0	30			

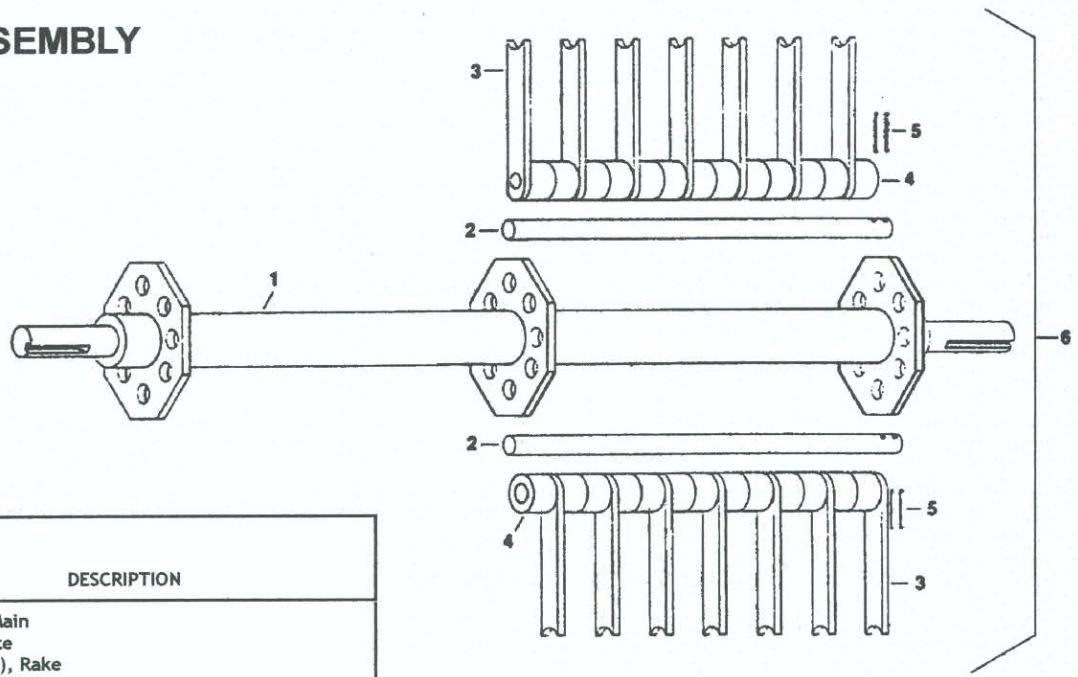
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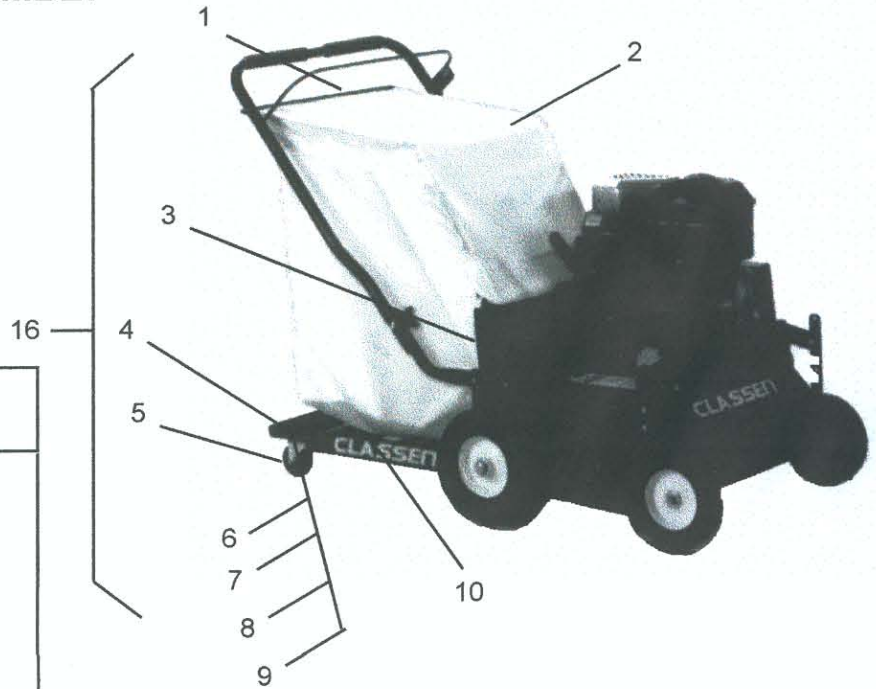
KEY	PART NO.	QTY PER MACH	DESCRIPTION	KEY	PART NO.	QTY PER MACH	DESCRIPTION
1	100074	2	Decal, "ClasSen"	7	100069	1	Decal, "DANGER, Keep Hands and Feet Away"
2	100060	1	Decal, "CAUTION - Muffler and Shields May Exceed 150°"	8	100070	1	Decal, "DANGER - Carbon Monoxide"
3	100075	1	Decal, "TR-20" (Turf Rake only)	9	100138	1	Decal, "Seed Application Chart" (Turf Seeder only)
4	100071	1	Decal, "Bail Engagement"	10	100228	1	Decal, "CAUTION - Catcher Bag (Turf Rake only)"
5	100061	1	Decal, "CAUTION - Operating Instructions"	11	100054	1	Manual, Operators/Parts (Not Shown)
6	100077	1	Decal, "TS-20" (Turf Seeder only)				

RAKE BLADE ASSEMBLY



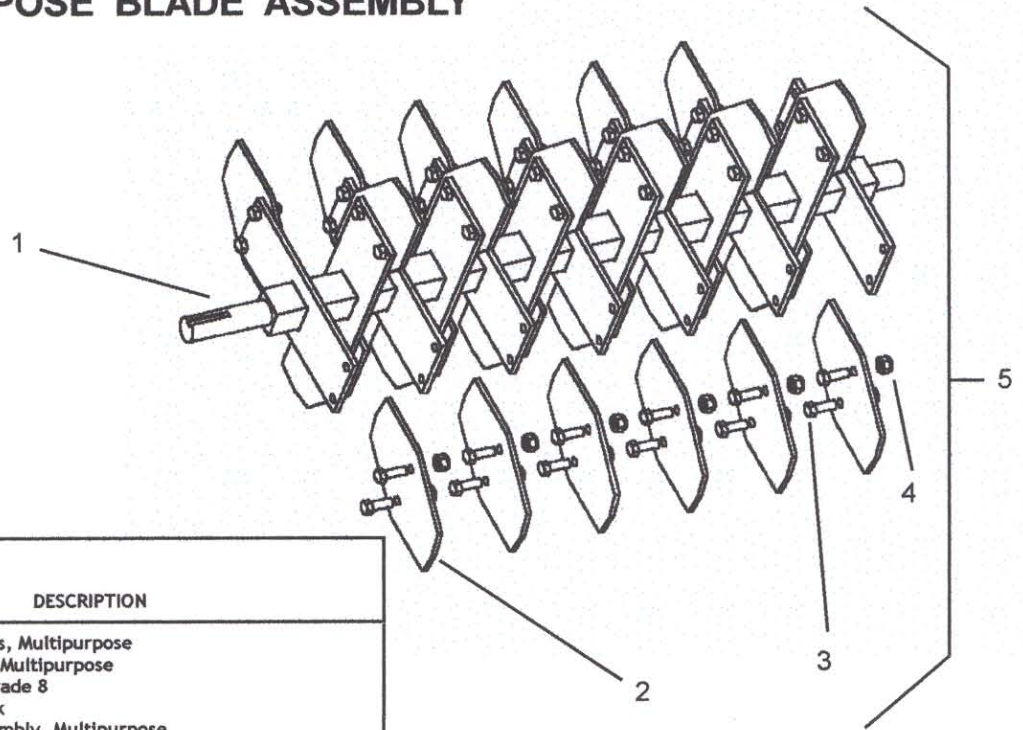
KEY	PART NO.	QTY PER MACH	DESCRIPTION
1	700008	1	Shaft, Rake Main
2	300014	4	Shaft, Satellite
3	300019	28	Blade (Finger), Rake
4	100056	52	Spacer, Finger
5	500067	8	Roll Pin, 1/8 x 7/8
6	600014	1	Main Shaft Assembly
7	900003	1	Main Shaft Assembly Complete (Not Shown) with End Plates, Bearings, Pulley, Key & Fasteners

RAKE CATCHER BAG ASSEMBLY



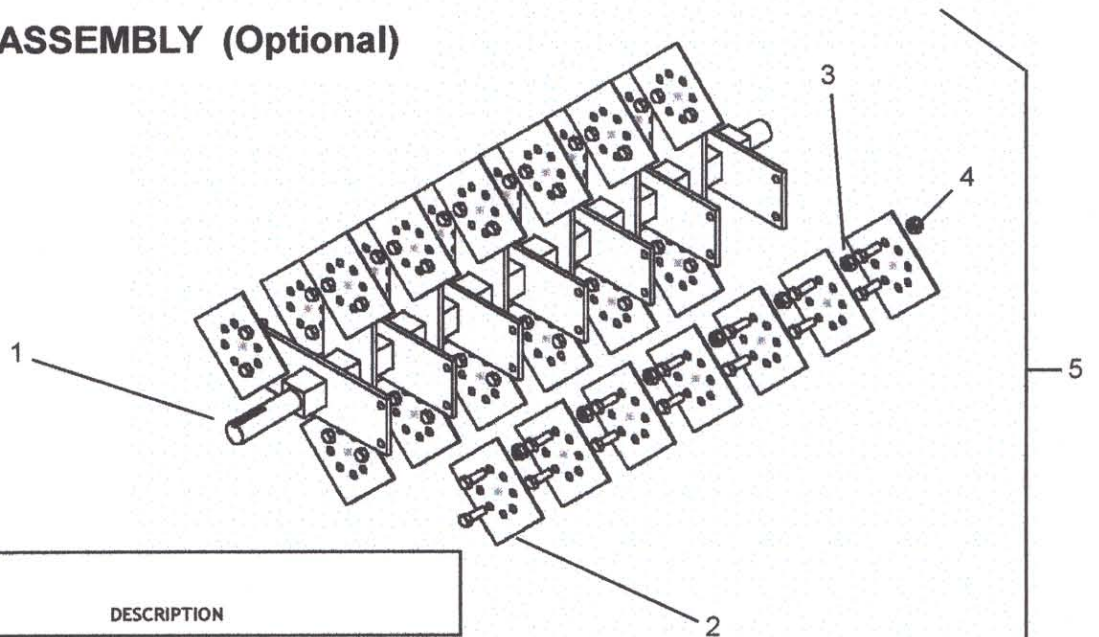
KEY	PART NO.	QTY PER MACH	DESCRIPTION
1	400119	1	Frame, Catcher Bag
2	100226	1	Catcher Bag
3	400181	1	Chute, Steel
4	400121	1	Tray, Bag
5	100227	2	Wheel, Bag Tray
6	500069	8	Bolt, 1/4-20 x 5/8
7	500088	8	Washer, 1/4 Flat
8	500137	8	Washer, 1/4 Lock
9	500136	8	Nut, 1/4-20
10	100074	2	Decal, "Classen"
11	100228	1	Decal, "CAUTION" (Not Shown)
12	400122	1	Pin & Clip (Not Shown)
13	100225	1	Cable Assembly, TRC Clutch (Not Shown)
14	500073	2	Bolt, 5/16 x 1-1/4 (Not Shown)
15	500072	2	Nut, 5/16 Nyloc (Not Shown)
16	900022	1	Catcher Bag Assembly

SEEDER / MULTIPURPOSE BLADE ASSEMBLY



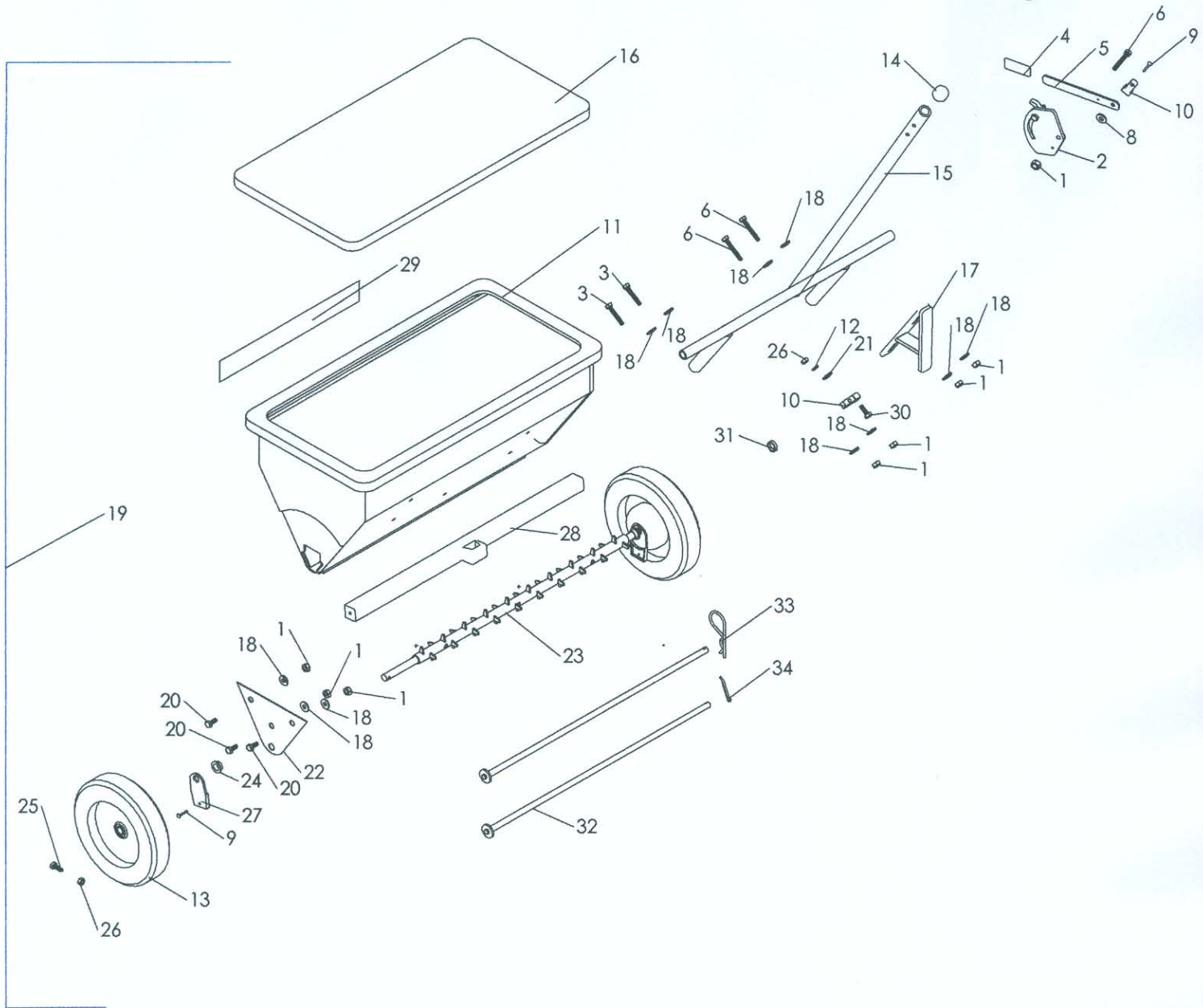
KEY	PART NO.	QTY PER MACH	DESCRIPTION
1	700025	1	Shaft w/ Blade Holders, Multipurpose
2	100310	26	Blade w/5/16" Holes, Multipurpose
3	500216	52	Bolt, 5/16-18 x 3/4 Grade 8
4	500217	52	Nut, 5/16-18 Top Lock
5	600030	1	Shaft/Blades Sub-Assembly, Multipurpose
6	900026	1	Complete Multipurpose Shaft Assembly (Includes Shaft, Blades, End Plates, Bearings, Pulley, Key & Fasteners) - Not Shown

SLICER BLADE ASSEMBLY (Optional)



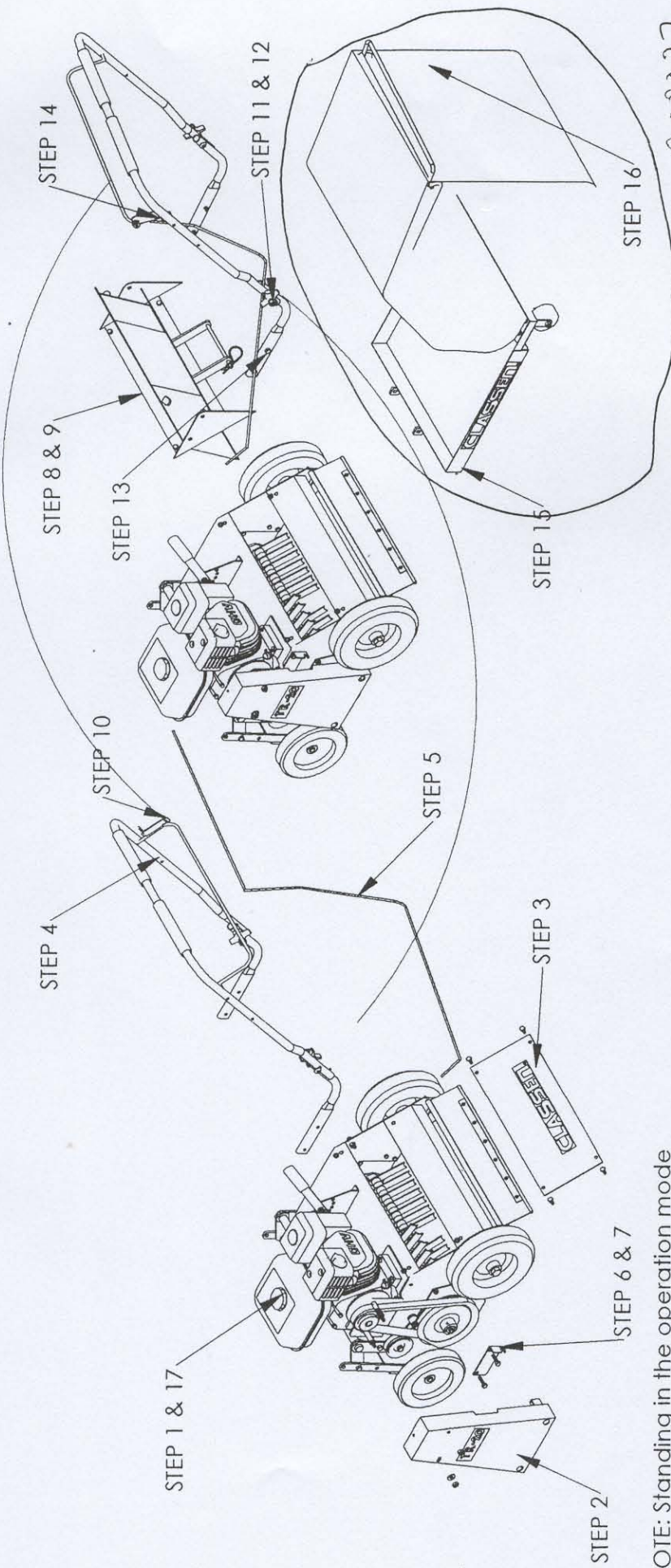
KEY	PART NO.	QTY PER MACH	DESCRIPTION
1	700025	1	Shaft w/ Blade Holders, Multipurpose
2	300032	26	Blade, Slicer Square
3	500216	52	Bolt, 5/16 x 3/4 Grade 8
4	500217	52	Nut, 5/16 Top Lock
5	600040	1	Shaft/Blades Sub-Assembly, Multipurpose
6	900027	1	Complete Slicing Shaft Assembly (Includes Shaft, Blades, End Plates, Bearings, Pulley, Key & Fasteners) - Not Shown

TS-20 Seed Box Assembly



KEY	PART NO	QTY/PER SHEET	DESCRIPTION	KEY	PART NO	QTY/PER SHEET	DESCRIPTION
1	500068	8	1/4" NYLOC NUT	19	900033	1	COMPLETE SEED BOX ASSEMBLY
2	100140	1	GAUGE w/ BOLT & WING NUT	20	500069	3	1/4" x 5/8" BOLT
3	500089	2	1/4" x 1-1/2" BOLT	21	500227	1	3/16" FLAT WASHER
4	100142	1	CONTROL LEVER GRIP	22	300116	1	SIDE PLATE
5	100141	1	CABLE CONTROL LEVER	23	400209	1	AXLE
6	500118	3	1/4" x 1-3/4" BOLT	24	100356	2	BEARING
7	100139	1	CONTROL CABLE (NOT SHOWN)	25	500223	2	3/16 x 1" BOLT
8	100127	1	FRICTION WASHER	26	500224	3	3/16" NUT
9	100229	3	#8 x 3/4" BLACK SCREW	27	100358	2	SHUT-OFF END CLIP
10	100144	2	HOUSING CLIP	28	100359	1	SHUT-OFF ASSEMBLY
11	100357	1	SEED BOX	29	100074	1	DECAL, "CLASSEN"
12	500226	1	3/16" LOCK WASHER	30	500225	1	3/16" x 3/4" BOLT
13	100355	2	8" SEED BOX DRIVE WHEEL	31	100020	1	PLASTIC TIE
14	100067	2	SHAFT GUARD	32	400040	2	CONNECTING PINS
15	400038	1	MOUNTING BRACKET	33	500096	1	5/32" x 3" HAIR PIN
16	100078	1	VINYL SEED BOX COVER	34	500016	1	5/32" x 1-1/4" COTTER PIN
17	400039	1	STABILIZING BRACKET				
18	500088	10	1/4" FLAT WASHER				

CONVERTING A TR-20 TO A TRC-20



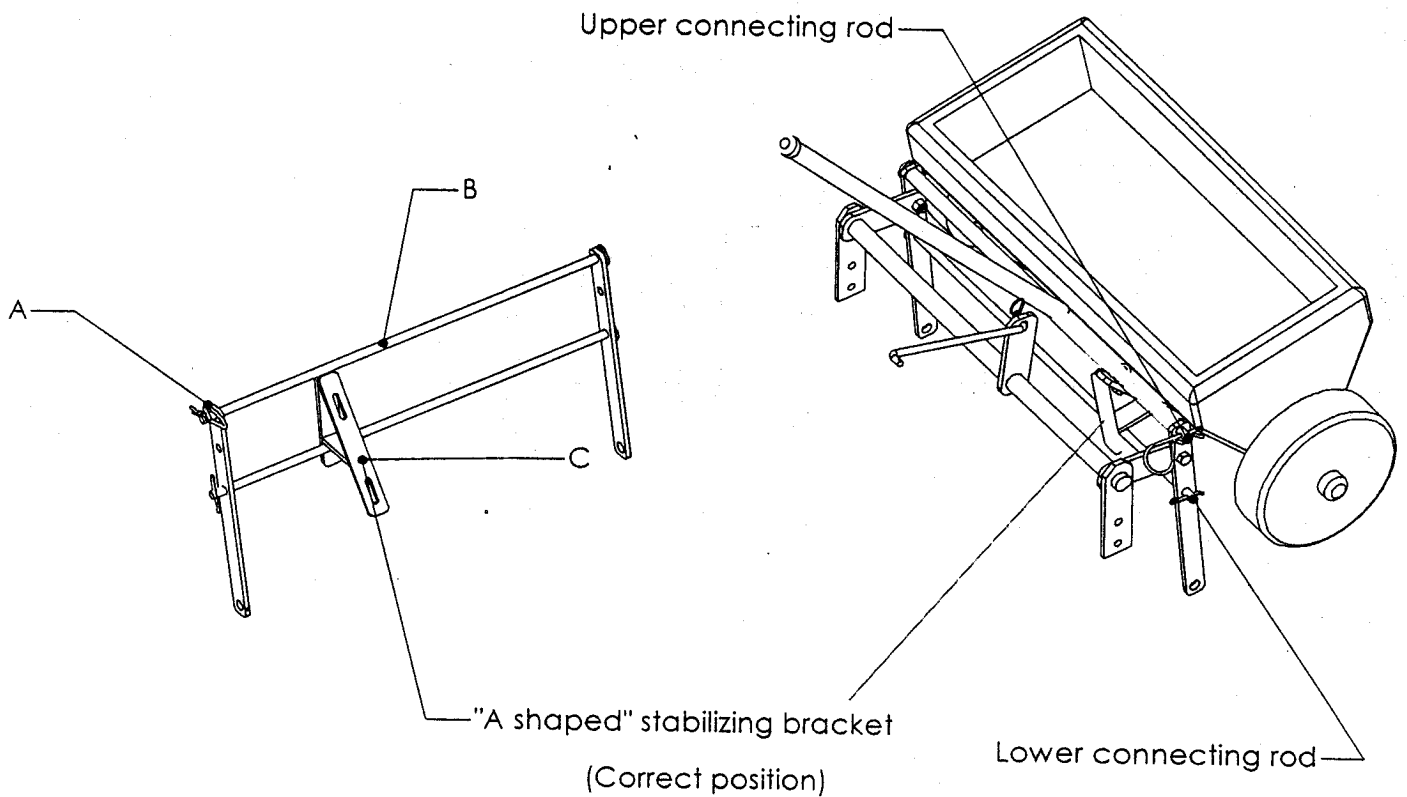
*NOTE: Standing in the operation mode determines what is left or right.

KEY	INSTRUCTION
STEP 1	Make sure the Engine is turned off, and the Spark Plug is un-attached.
STEP 2	Remove Guard (400032).
STEP 3	Remove Frame Plate (300072) from TR-20.
STEP 4	Remove Main Handle (300023) and Lower Handle (300022).
STEP 5	Remove Clutch Cable Assembly (100053) from Main Handle.
STEP 6	Remove Clutch Cable Bracket (300024) from Lower Handle.
STEP 7	Bolt Clutch Cable Bracket to unit, where it was minus the Main Handle.
STEP 8	Insert the Steel Chute (400181) in the space where the Frame Plate was. Note the direction the Chute is facing.
STEP 9	Bolt down the Steel Chute with the bolts and nuts used on the Frame Plate.
STEP 10	Turn the Main Handle around, so the Bail (400034) is on the opposite side that it was on. You will have to pull it back towards yourself.
STEP 11	Take the carriage bolts off the Lower Handle. Drill a 1/2" hole out on the inside of the Lower Handle, and reverse carriage bolts to point out.
STEP 12	Hook up the Lower Handle to the Main Handle. The bolts should be facing out. Put on the Four Prong Knobs (100059), so they are on the outside of the lower Handle. (This way the bag does not rub on the prongs.)
STEP 13	Bolt down the Main Handle to the Steel Chute with the bolts and nuts used when bolted to the Main Frame.
STEP 14	Hook up new Clutch Cable Assembly (100225) (*Now on the left side of the Handle), to the Main Handle, Clutch Cable Bracket, and to Engagement Arm (400035).
STEP 15	Hook up Bag Tray (400121) with Pin and Clip (400122) to Main Frame.
STEP 16	Put Catcher Bag (100226) on Machine.
STEP 17	Re-attach Spark Plug.

SEED BOX INSTALLATION

For shipping purposes only, the seed box assembly is attached to machine improperly.

To set your machine correctly for operation, remove hairpin clip (A) from upper connecting rod (B). Slide upper rod out, allowing "A shaped" stabilizing bracket (C) on seed box to sit over lower connecting rod. (When mounted properly, wheels of seed box should be resting on front wheels of machine). Reinsert rod and clip.



SEEDER TIRE SCRAPE INSTALLATION

