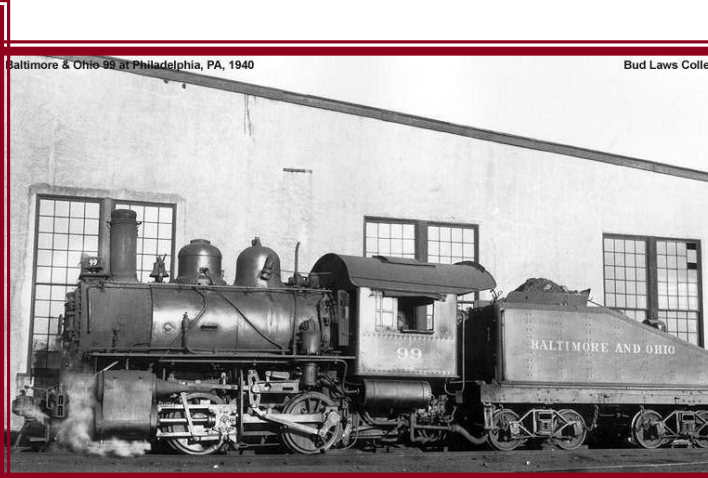


SWITCHER 0-4-0 & TANK ENGINE 0-4-0



This 0-4-0 **SWITCH** engine is modeled after the B&O's No. 99 and 98 Switcher; it is a very beautiful engine and performs excellently.

With all of the weight (300 lbs.) on the four drivers, the Little Engines **SWITCHER** and **TANK ENGINE** are very powerful. They are small enough to be portable while enduring a lot of good, hard use. With Walschaert's valve gear and piston valves, a 2 $\frac{3}{8}$ inch bore and a stroke of 3 feet; the result is a sure power pack. As all ports are cast into the cylinder block, very little piping is necessary. With exception of the cylinder block, all parts can be machined on a small lathe and milling attachment. The engine was designed with the thought of easy construction with as few parts as possible to produce a sturdy, portable work horse.

Both the **SWITCHER** and **TANK ENGINE** are ideal for someone with small machining equipment, little time and space, and an eye for economy. If you wish a little larger engine, see the 0-6-0 Switcher.

SPECIFICATIONS

Engine & Tender Length	40 inches
Height	23 $\frac{1}{2}$ inches
Weight (Engine Only)	300 lbs (approx.)
Track Gauge	7 $\frac{1}{4}$ or 7 $\frac{1}{2}$ inches
Bore & Stroke	2 $\frac{3}{8}$ x 3 inches
Drive Wheel Diameter	7 inches
Fuel	Coal, Oil, or LPG
Boiler	8 inch diameter Steel
Minimum Turning Radius	15 feet

RECOMMENDED MACHINERY

9 inch swing lathe
Medium milling machine

Saddle Tanker / Switcher 0-4-0

Section 1 - Prints 1, 2 & 3				
Part Number	Qty	Description of Part	Details (1989 - Catalogue 300)	Rough Price 2021
99S1	2	Top Bar	1/2" x 1/2" x 60" crs	42.88
99S2	2	Bottom Bars	3/8" x 1/2" x 15" crs	4.97
99S3	2	Bottom Cylinder Bars	1/2" x 3/4" x 24" crs	DNI
99S4	4	Pedestal Binders	1/4" x 1/2" x 18" crs	8.77
99S5	2	Front Pedestal	(c)	DNI
99S7	2	Back Pedestal	(c)	DNI
99S8	2	Back Frame Bar & Pin Material	(c)	DNI
99S9	2	Top Cylinder Bar	Water Jet	40.00
99S9A	2	Brake Shift Bearings	(c)	20.00
99S9B	1	Brake Cylinder Bar	(c)	15.00
99S9C	1	Axle Pump Seat	1/4" x 1-1/4" (7") crs	7.00
99S9D	1	Pilot Step Supports	3/16" x 1/2" (24") crs	24.00
		Bolts & Nuts		N/A
99S1WJ	2	Water Jet Frame		400.00

Rough Total Section 1 506.00



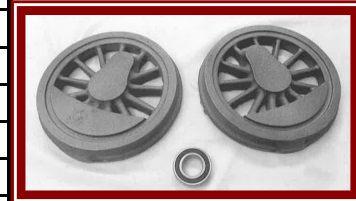
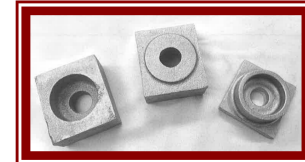
Section 2 - Print 4				
Part Number	Qty	Description of Part	Details (1989 - Catalogue 300)	Rough Price 2021
99S10	1	Pilot Beam	(c)	50.00
99S11	2	Pilot Beam Braces	1/8" x 1" x 1" x 5" hrs	5.00
99S12	1	Front Frame Spreader	(c)	20.00
99S13	1	#1 Brake Hanger	(c)	40.00
99S14	2	#2 Brake Hanger	(c)	20.00
99S15	1	Draw Bar Pocket	(c)	50.00
99S16	1	Coupler Housing	(c)	40.00
		Bolt & Nuts		DNI

Rough Total Section 2 225.00



Section 3 - Print 5				
Part Number	Qty	Description of Part	Details (1989 - Catalogue 300)	Rough Price 2021
99S17	4	Journal Boxes	(c)	120.00
99S18	4	Journal Box Covers	(c)	60.00
99S19	4	Bearings	Ready to Install	16.00
99S20	4	Driver Wheels	(c)	240.00
99S21	2	Axles	1-1/8" CRS x 20"	20.00
99S22	4	Axles Keys	1/4" square (6") crs	2.00
99S23	2	Crank Pins	Main 3/4" round (6") crs	6.00
99S24	2	Crank Pins	3/4" round (6") crs	6.00
99S25	2	Crank Pin Caps	1" round (6") crs	6.00
		Bolts & Nuts		DNI

Rough Total Section 3 476.00



Section 4 - Print 6				
Part Number	Qty	Description of Part	Details (1989 - Catalogue 300)	Rough Price 2021
99S26	2	Main Spring Set		35.00
99S27	2	Main Spring Clamps	3/8" x 5/8" (8") crs	8.00
99S28	2	Center Springs		35.00
99S29	2	Center Spring Clamps	3/8" x 5/8" (6") crs	6.00
99S30	2	Back Springs		35.00
99S31	2	Back Spring Clamps	3/8" x 5/8" x 4" crs	4.00
99S32	1	Spring Bar	Water Jet	15.00
99S33	4	#1 Spring Hanger	Waterjet	DNI
99S34	4	#2 Spring Hanger	Waterjet	DNI
99S35	2	#3 Spring Hanger	Waterjet	DNI
99S37	2	Spring Saddles	(c)	40.00
99S38	4	Back Hanger	(c)	40.00
99S39	1	Front Spring Bar	3/8" round (8") crs	8.00
99S40	1	Front Spring Clevis	1/2" sq x 3" crs	3.00
99S41	2	Black Hanger Pin	1/4" round (8") crs	8.00
99S42	6	Spring Clamp	Waterjet	DNI
99S43	12	Spring End Blocks	1/2" square (12") crs	12.00



99S44	12	Spring Rigging Pins	1/4" round (24") crs	24.00
		Bolts & Nuts		DNI

Rough Total Section 4 273.00

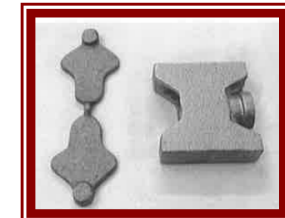
Section 5 - Print 7				
Part Number	Qty	Description of Part	Details (1989 - Catalogue 300)	Rough Price 2021
99S45	2	Link Bearings	(c)	120.00
99S47	4	Link Bearing Braces	(c)	24.00
99S48	2	Guide Yokes	(c)	30.00
99S49	1	Back Link Bar	3/16" x 1" (14") crs	14.00
99S50	1	Front Link Bar	3/6" x 1" (12") crs	12.00
99S51	1	Reverse Bar	3/8" round (14") crs	14.00
		Bolts & Nuts		DNI

Rough Total Section 5 214.00



Section 6 - Print 8				
Part Number	Qty	Description of Part	Details (1989 - Catalogue 300)	Rough Price 2021
99S52	2	Main Rods	(c)	65.00
99S53	2	Main Rod Bushings	Front	4.00
99S53A	2	Main Rod Bushings	Back	15.00
99S54	2	Side Rods	(c)	60.00
99S55	4	Side Rod Bushings		30.00
99S58	2	Crossheads	(c)	80.00
99S59	2	Crosshead Pins	3/4" Hex (3") crs	3.00
99S60	2	Crosshead Extensions	(c)	24.00
99S61	4	Crosshead Guide Bars	3/8" x 1/2" (30") crs	30.00
		Bolts & Nuts		DNI

Rough Total Section 6 311.00



Section 7 - Prints 9, 9A, & 10				
Part Number	Qty	Description of Part	Details (1989 - Catalogue 300)	Rough Price 2021
99S62	2	Cylinder Block		170.00
99S62A	1	Cylinder Center Block		60.00

99S62B	1	Cylinder Saddle		50.00
99S63	2	Cylinder Bushings	Bronze	120.00
99S64	2	Cylinder Heads	Front (c)	60.00
99S65	2	Cylinder Heads	Back (c)	64.00
99S66	2	Stuffing Box	1" round (3") br.	3.00
99S67	2	Piston	(c)	30.00
99S68	4	Piston Rings		24.00
99S69		Sheet Packing & String	3/32" x 12"	5.00
99S70	2	Piston Rods	1/2" round (18") s.s.	18.00
99S71	2	Piston Rod Nuts	1/2-20 s.s	2.00
99S72	2	Piston Valves	1-3/8" x7" Cast Iron	35.00
99S73	2	Piston Valve Bushings	Bronze	75.00
		Bolts & Nuts		DNI

Rough Total Section 7 716.00



Section 8 - Print 10				
Part Number	Qty	Description of Part	Details (1989 - Catalogue 300)	Rough Price 2021
99S74	2	Front Valve Head	(c)	30.00
99S75	2	Back Valve Head	(c)	60.00
99S76	2	Packing Gland	(c)	20.00
99S77	2	Valve Rod	3/8" round (12") crs	12.00
99S79	8	Piston Valve Rings		20.00
99S80		Sheet Packing & String	3/32" x 12"	5.00
		Bolts & Nuts		DNI

Rough Total Section 8 147.00



Section 9 - Print 11				
Part Number	Qty	Description of Part	Details (1989 - Catalogue 300)	Rough Price 2021
99S81	2	Links & Blocks	Water Jet	80.00
99S82	4	Link Side Plates	(c)	30.00
99S83	2	Eccentric Cranks	Waterjet	60.00
99S84	2	Eccentric Crank Pins	1/4" round (3") crs	3.00
99S85	2	Combination Lever	(c)	40.00
99S86	2	Anchor Links	(c)	40.00
99S87	2	Eccentric Rods	(c)	44.00

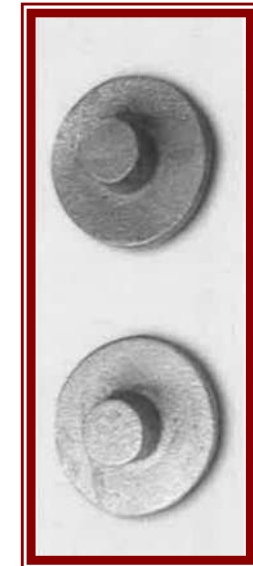


99S88	2	Radius Rods	(c)	40.00
99S89	2	Bell Crank	(c)	30.00
99S90	2	Lifter Link	3/8" square (6") br	6.00
99S91	2	Taper Pins	#0	2.00
99S92	12	Valve Gear Pins	1/4" round (12") crs	12.00
99S92A	2	Valve Stem Crossheads	3/4" round (4") crs	4.00
		Bolts & Nuts		DNI

Rough Total Section 9 391.00

Section 10 - Print 12				
Part Number	Qty	Description of Part	Details (1989 - Catalogue 300)	Rough Price 2021
99S93	1	Brake Cylinder	(c)	40.00
99S94	2	Brake Cylinder Heads	(c)	30.00
99S95	1	Piston	1-1/4" Bronze	5.00
99S95A	1	"0" Ring	1-1/4" Viton Steam Rated	12.00
99S96	1	Piston Rod	5/16" round (4") s.s.	4.00
99S97	1	Piston Rod Clevis	1/2" sq. x 1" crs	1.00
99S98	1	Brake Cylinder Spring	Stainless	4.00
99S100	1	Brake Shaft	3/8"round (6") crs	6.00
99S101	2	Lower Brake Arm & Pin	5/16" rd. x 3" crs	3.00
99S102	1	Top Arm	(c)	N/A
99S103	2	Adjusting Block	3/8" square (6") br	6.00
99S104	2	Brake Beam	3/16" x 1/2" (24") crs	24.00
99S105	4	Brake Shoe Bar Pins	1/4" round (8") crs	8.00
99S106	4	Brake Rods	3/16" round (48") crs	5.00
99S107	6	Clevis	3/8" square (12") cr	12.00
99S108	4	Brake Shoes	(c)	50.00
99S109	4	Brake Hangers	3/16" x 1/2" (12") crs	12.00
99S111	6	Clevis Pins	1/4" round (12") crs	6.00
99S112	3	Taper Pins	#0	3.00
		Bolts & Nuts		DNI

Rough Total Section 10 231.00



Section 11 - Prints 13 & 14				
Part Number	Qty	Description of Part	Details (1989 - Catalogue 300)	Rough Price 2021
99S113	1	Smoke Box	8"-5/8" O.D.	80.00
99S114	1	Smoke Box Door	(c)	96.00
99S115	1	Exhaust Stand Pipe	(c)	40.00
99S116	2	Blower Ring & Nozzle	1-3/4" O.D.	15.00
99S117	2	Dry Pipe Flanges	(c)	40.00
99S118	1	Number Plate	(c)	30.00
99S119	12	Door Dogs	(c)	20.00
99S120	1	Smoke Stack	(c)	65.00
99S121	1	Stack Extension	(c)	65.00
99S122	1	Turret	3/4" Sq. Brass	10.50
99S124	1	Headlight Holder	(c)	40.00
99S124A	1	Standard Throttle Unit Kit		120.00
99S139	2	Fire Box Door & Ring	(c)	56.00
99S139A	1	Grates (Machined)		120.00
		Bolts & Nuts		DNI
99S124B	2	Branch Pipe Flanges	(c)	40.00

Rough Total Section 11 837.50



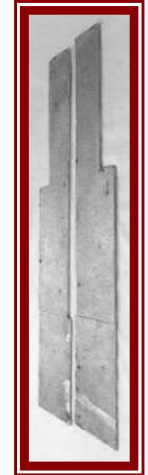
Section 12 - Prints 19-4T				
Part Number	Qty	Description of Part	Details (1989 - Catalogue 300)	Rough Price 2021
99S140	1	Cab Roof		140.00
99S141	2	Cab Sides		40.00
99S142	1	Cab Back		40.00
99S143	1	Cab Front		40.00
99S144	1	Cab Brace		30.00
99S145	1	Cab Flr	1/8" x 11-5/8" x 15-1/2"	25.00
99S146	2	Cab Doors		8.00
99S147	2	Cab Window		10.00
99S147A		Cab Angle	1/8" x 1/2" x 72" alum	24.00
		Bolts & Nuts		DNI

Rough Total Section 12 357.00



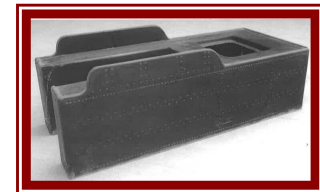
Section 13 - Prints 19B & 20				
Part Number	Qty	Description of Part	Details (1989 - Catalogue 300)	Rough Price 2021
99S147B	1	Throttle Control	kit	24.00
99S148	1	Steam Dome	Cover (c)	50.00
99S149	2	Sand Dome	(c)	50.00
99S150	1	Bell Unit	(c)	48.86
99S151	12	Hand Rail Knobs		TBD
99S152	1	Hand Rail		TBD
99S153	1	Air Brake Stand		162.50
99S154	1	Reverse Lever Quadrant & Base	(c)	81.00
99S155	2	Running Board Steps	(c)	TBD
99S156	2	Running Boards	(c)	TBD

Rough Total Section 13 416.36



Section 14 - Prints 22A & 22B				
Part Number	Qty	Description of Part	Details (1989 - Catalogue 300)	Rough Price 2021
99S157	2	Tender Frame Undercarriage	(c)	TBD
99S157A	2	Intermediate Frame Spacer	(c)	TBD
99S158	1	Draw Bar Pocket	(c)	TBD
99S159	1	Draft Gear	crs kit	TBD
99S160	2	Water Inlet & Top	(c)	TBD
99S162	2	Center Plates	(c)	20.00
99S163	1	Coupler & Knuckle	(c)	45.00
99S164/16	2	Buffer & Buffer Base	(c)	45.00
99S165A	1	Buffer Spring		4.50
99S166	2	Tender Steps	(c)	30.00
99S167	1	Tender Tank	Water Jet Kit	458.68
		Bolts & Nuts		DNI

Rough Total Section 14 603.18



Section 15 - Print 23

Part Number	Qty	Description of Part	Details (1989 - Catalogue 300)	Rough Price 2021
99S15-500	4	Side Frames	(c)	80.00
99S15-501	2	Bolsters	(c)	80.00
99S15-502	8	Journal Box	(c)	160.00
99S15-503	8	Journal Box Lids	(c)	80.00
99S15-504	8	Bearings	1 Casting makes 2	40.00
99S15-505	8	Wheels	(c)	80.00
99S15-506	4	Axles	1" round (48") crs	33.50
99S15-507	4	Spring Seats	(c)	40.00
99S15-508		Spring Pads	1/8" x 1/2" (48") crs	8.35
99S15-509	16	Springs		72.00
99S15-510	4	Tie Bars	1/8" x 1/2" (48") crs	8.35
		Bolts & Nuts		N/A

Rough Total Section 15 682.20



	2021
Complete Set of Drawings	320.00
Complete Rought Kit: Castings, Bar Stock, & Hardware Free drawings with complete sections	Upgrades, TBD, DNI not included SADDLE 5,100.86
Complete Rought Kit: Castings, Bar Stock, & Hardware Free drawings with complete sections	Upgrades, TBD, DNI not included SWITCHER 6,386.24
Complete and Tested Boiler	4,000.00
Finished Saddle Tank	CALL
Painted and Ready-to-Run Locomotive	CALL

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