

3701- engine shown with dual ignition and 90 degree exhaust manifold

The 3701 is Hirth's first offering of a water-cooled engine for the aircraft market.

A narrow profile and single tuned exhaust used for all 3 cylinders allows the 3701 to be used in compact engine compartments. Pistons fire 120 degrees apart resulting in very quiet & smooth operations.

3701 incorporates Al-Nikasil coated cylinders for superior performance and reliability. Nikasil provides for a super low coefficient of friction, reducing engine heat and wear. The pistons and cylinders expand at the same rate thus providing for a seizure resistant engine. 3701 crankshaft is 4130 chromemolly steel. Heads, cylinders, rings, block casting, connecting rods and associated components are all of the highest grade alloys available today.

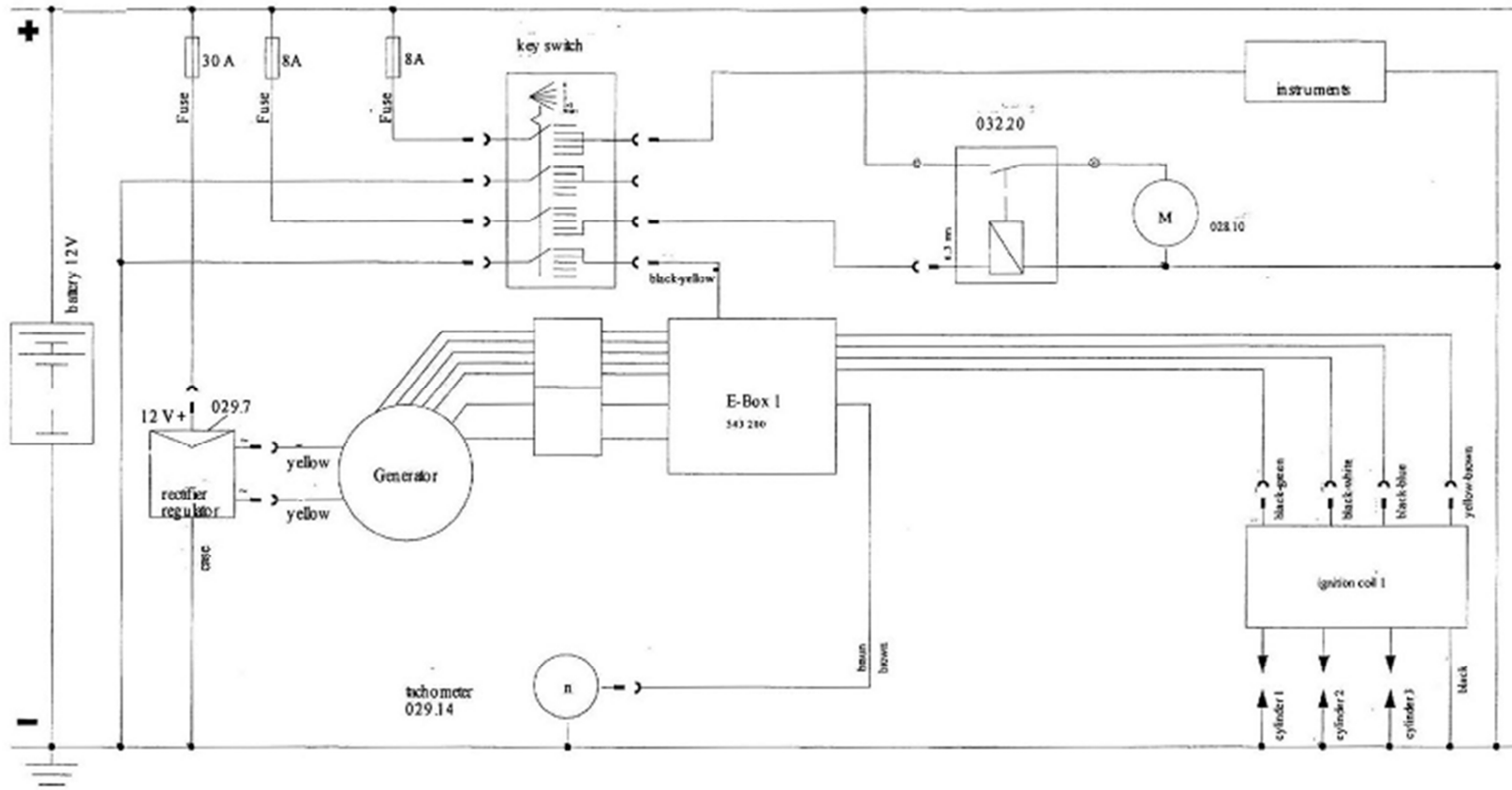
Technical Data:

Model: 3701 - 2 cycle, three cylinder inline
 Reed valve induction.
 Bore: 76 mm
 Stroke: 69 mm
 Displacement: 939 cc
 Compression: 9.5 : 1
 HP Output: 100hp @ 6000 rpm
 Peak Torque: 88 ft. lbs. @ 5500 rpm
 Ignition: Single CDI (Capacitive Discharge Ignition)
 TBO 1,000 Hrs. Rated at 75% power

Carburetion: 3 dellorto carbs
 Old Option: Electronic suction pipe fuel injection
 Fuel Pump: 3 diaphragm pumps (1 for each carb)
 Old Option: 90 PST 12VDC electric fuel pump.
 Lubrication: Premix -40:1 or optional oil injection
 Rotation: Counter clockwise, viewed from output end
 Starter/Generator: 12 VDC electric / 240 watt generator
 Cooling: Liquid cooled 50:50 mixture of glycol (anti freeze) & water
 Weight: 108 lbs, including complete exhaust & starter
 Spark Plugs: NKG BR9HS

3701 TECHNICAL DATA

Fuel Injected Engine	3701S--100Hp	Carbureted Engine	
Ign.Timing@2000 - Fuel injected	18°	Ign. Timing@2000	16°
Spark Plug Heat VI.	280	No. of Carburetors	3
Spark Plug Gap	0.020-0.024	Carburetor ID #	Dellorto PHBE 34 BD8
No. of Injectors	Three	Main Jet	165
Do Not Exceed RPM	6300	Idle Jet	50
Peak HP RPM	6000	Needle Jet	AB 265
HP @ Peak RPM	100	Needle Position	#1 Top
Peak Torque RPM	5500	Needle #	K43
Peak Torque Ft.Lb.	85	Float	8.5
Maximum CHT	390°F	Mixture Adjustment Screw	3/4 Turn Out
Maximum EGT @ full power	1150°F	Cold Start/ Choke Jet	90
Maximum EGT @ cruise power	1230°F		
Maximum coolant temperature	220°F		
Minimum coolant temperature	160°F		




This wiring diagram is to be considered as a proposal for wiring

General size of line wire: 1,5 mm²

Size of line from/to E-Starter: 16 mm²

Rectifier-regulator mount on cooling body (ca. 250x200x5mm)

* Minimum distance to other current wires: 100 mm (4 in.)

f						Tag	Name
e						03.07.01	Rögele
d						03.07.01	Rögele
c						Wiring diagram CDI - single ignition	
b						PVL	
a							
					Tag	Name	3701
							Nr.
							

Spare part list

Engine

3701

100 HP

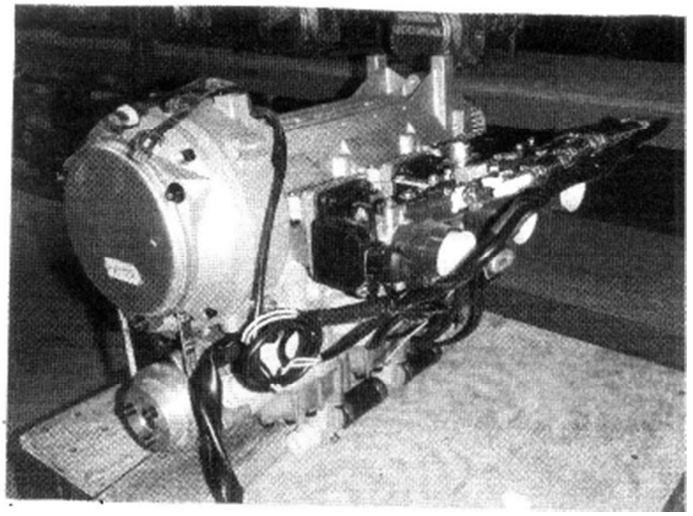
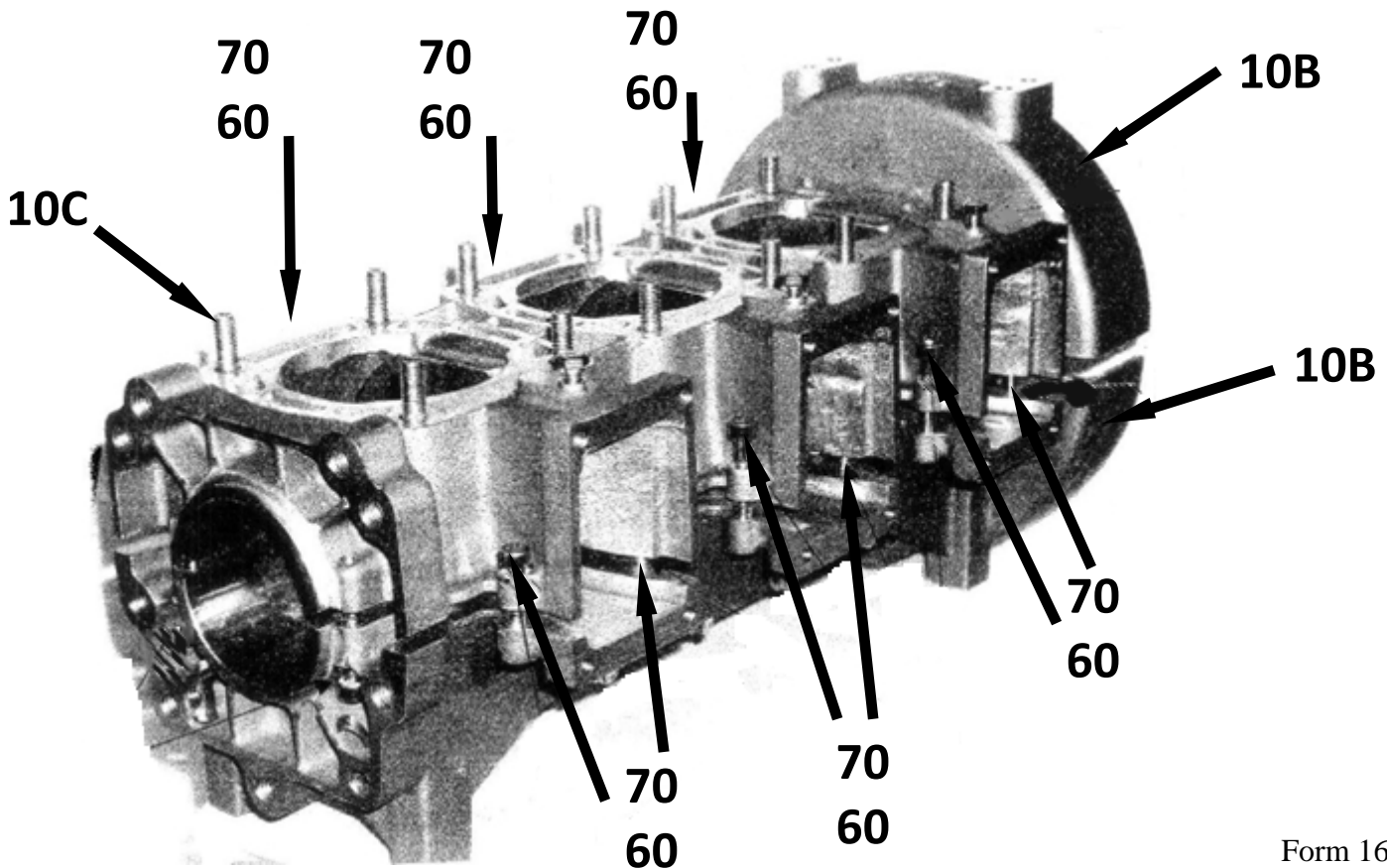


Fig. No.	Quantity.	Designation	Neoteric Part No	
10	1	Crankcase, complete	7160	Incl. 10a-10c
10a	1	Crankcase, downside	7161	
10b	1	Crankcase, upside	7162	
10c	12	Stud screw	7163	
20	3	Hexagon head screw	6927	
30	3	Sealing ring, aluminum	5629	
40	8	Hexagon head screw	7165	
50	8	Washer	7166	
60	11	Serrated lock washer	6902	
70	5	Cylinder screw	6901	
80	2	Cylinder screw	2289	
90	4	Cylinder screw	6911	



Crankshaft 3701

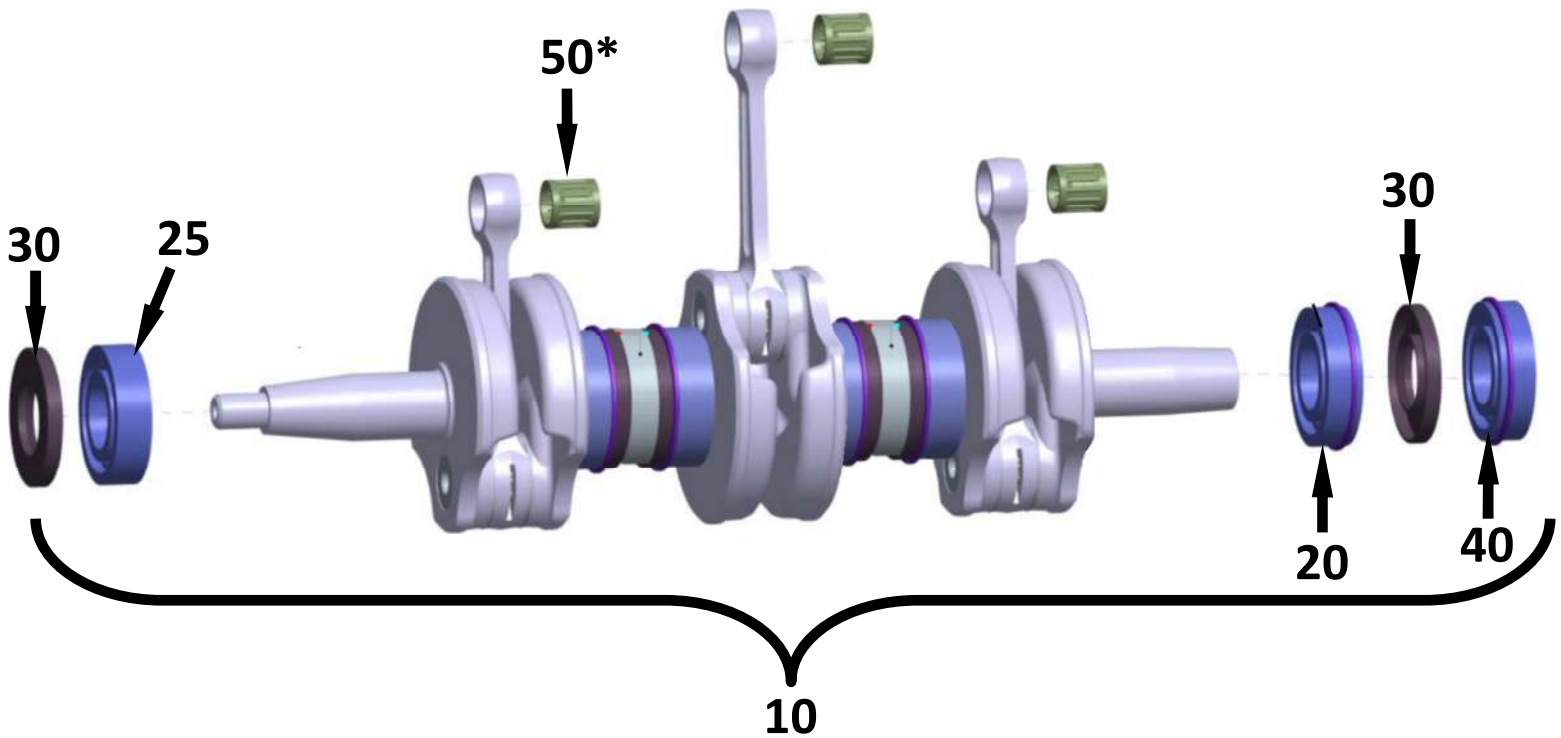
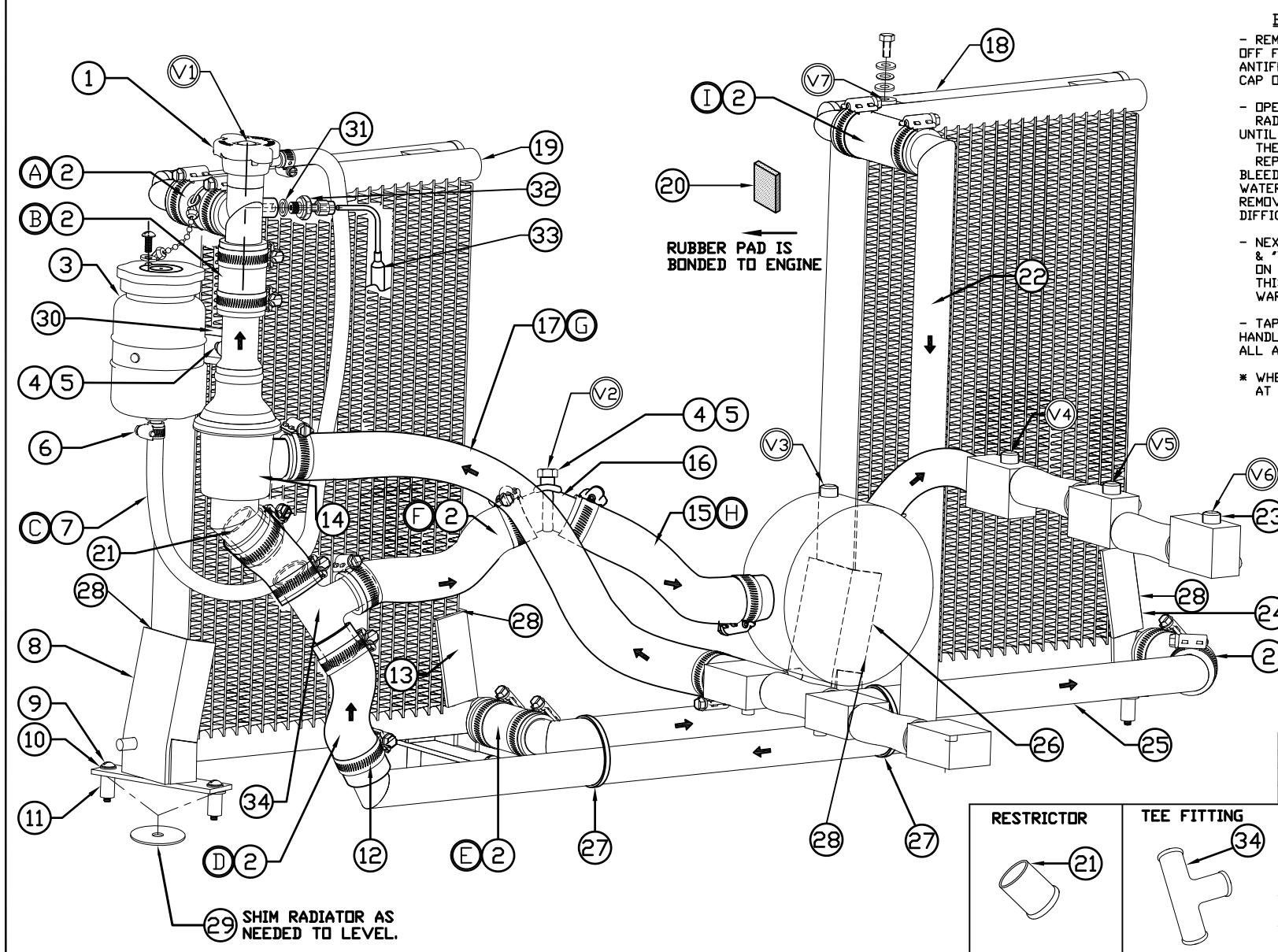


Fig. No.	Qty.	Description	Neoteric Part #	Remark / Notes
10	1	Crankshaft	7167	Includes items 20 - 40
20	1	Deep groove ball bearing	7168	
25	1	Deep groove ball bearing	7169	
30	2	Shaft sealing ring	5453	
40	1	Deep groove ball bearing	7170	
50	3	Needle Bearing, Blue dot (#1)	7909	* Connecting Rods are Color-Coded with a Paint Dot on the Piston end.
		Needle Bearing, Yellow dot (#2)	6082	Engines built from 2010 onward also include a Number Code next to the Paint Dot. The coding corresponds to the correct Needle bearing size. (Approx 0.0003" [0.008mm] graduation between each size)
		Needle Bearing, Red dot (#3)	6083	
		Needle Bearing, White dot (#4)	5464	
		Needle Bearing, Green dot (#5)	7910	Blue (#1) is the smallest and Green (#5) is the largest. Connecting rods with a Red (#3) dot are most common.
				If the paint dot is missing and no number code can be found, all bearings must be tried for the best fit.

DESCRIPTION			PARTS LIST		
REF.	PART #	DESCRIPTION	REF.	PART #	DESCRIPTION
1	5941	HIRTH RADIATOR CAP, MODIFIED	12	6802	HOSE CLAMP, SS (CURRENT)
2	5954	1.00 ID RADIATOR HOSE	13	5964	HIRTH RADIATOR INSIDE MOUNT, PORT COATED
3	9630	HIRTH RADIATOR OVERFLOW BOTTLE	14	5802	HIRTH RADIATOR THERMOSTAT, MODIFIED
4	2451	HEX NUT, SS	15	5953	RADIATOR HOSE
5	2230	BOLT, HEX HD SS	16	6098	HIRTH RADIATOR LINE BLEED TUBE
6	2203	SCREW/BAND HOSE CLAMP, SS	17	6576	1.00 ID RADIATOR HOSE, 90 DEG BEND
7	2697	PVC HOSE, CLEAR	18	6412	STARBOARD RADIATOR
8	5975	HIRTH RADIATOR OUTSIDE MOUNT, PORT COATED	19	6411	PORT RADIATOR
9	2266	MACH SCREW, ROUND HD SS	20	9596	ENGINE VIBRATION RADIATOR ISOLATION PAD
10	2362	WASHER, SS	21	7803	100HP NARROW RESTRICTOR, MODIFIED
11	2552	WELL NUT	22	5979	HIRTH RADIATOR, UPPER PIPE
12	5961	HOSE CLAMP, SS (OLD STYLE)	23	2469	CAP SCREW, SOCKET HD SS
			24	5965	HIRTH RADIATOR OUTSIDE MOUNT, STAR. COATED
			25	5980	HIRTH RADIATOR, LOWER PIPE
			26	5976	HIRTH RADIATOR INSIDE MOUNT, STAR. COATED
			27	2371	NYLON WIRE TIE, BLACK
			28	3108	NEOPRENE FABRIC, BLACK
			29	2516	SHIM WASHER, SS
			30	5968	OVERFLOW BOTTLE MOUNT
			31	9446	COPPER SEALING WASHER
			32	9435	COOLANT TEMP PROBE COMPRESSION FITTING
			33	9434	COOLANT TEMP PROBE
			34	9486	PLASTIC TEE FITTING

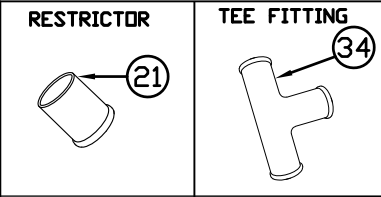


BLEEDING THE COOLING SYSTEM

- REMOVE RADIATOR PRESSURE CAP AND TOP OFF FLUID. ITS BEST TO USE A 50/50 ANTIFREEZE (GLYCOL) / WATER MIX. LEAVE CAP OFF.
- OPEN VENT "V7" ON TOP OF THE STARBOARD RADIATOR AND ALLOW FLUID TO FLOW OUT UNTIL NO AIR IS PRESENT. KEEP TOPPING OFF THE FLUID THROUGH RADIATOR PRESSURE CAP. REPEAT THIS PROCESS FOR EACH OF THE BLEED SCREWS. **THE BLEED SCREW IN THE WATER PUMP IS TRICKY. TRY NOT TO REMOVE THIS SCREW ALL THE WAY DUE TO DIFFICULTIES REINSTALLING.
- NEXT LOOSEN AND BLEED SCREWS "V4", "V5", & "V6" ONE AT A TIME. THESE ARE LOCATED ON THE STARBOARD SIDE OF ENGINE. WHEN THIS IS DONE RUN THE ENGINE UNTIL IT IS WARMED UP THEN REPEAT THE ABOVE.
- TAP SIDE OF THERMOSTAT WITH WOODEN HANDLE WHILE CAP "V1" IS REMOVED UNTIL ALL AIR BUBBLES DISAPPEAR.
- * WHEN ALL AIR IS REMOVED, CHT SHOULD RUN AT 250° F MAX.

- NOTES:
1. POSITION ALL HOSE CLAMPS AS SHOWN ON THIS FORM.
 2. ALL RADIATOR MOUNTS ARE TO BE LINED WITH NEOPRENE FABRIC.
 3. #12 CURRENT HOSE CLAMPS (#6802).
 4. RESTRICTOR INSIDE BOTTOM PORT OF THERMOSTAT.

CJ	4	ADDED RESTRICTOR AND TEE FITTING, CORRECTED GEOMETRY	21 MAY, 2019
CJ	3	UPDATED HOSE CLAMPS AND THERMOSTAT	13 MAR, 2018
CS	2	UPDATED TO STD II, REMOVED DESCRIPTIONS	3 JUN 2014
SIG. NO.		REVISION	DATE



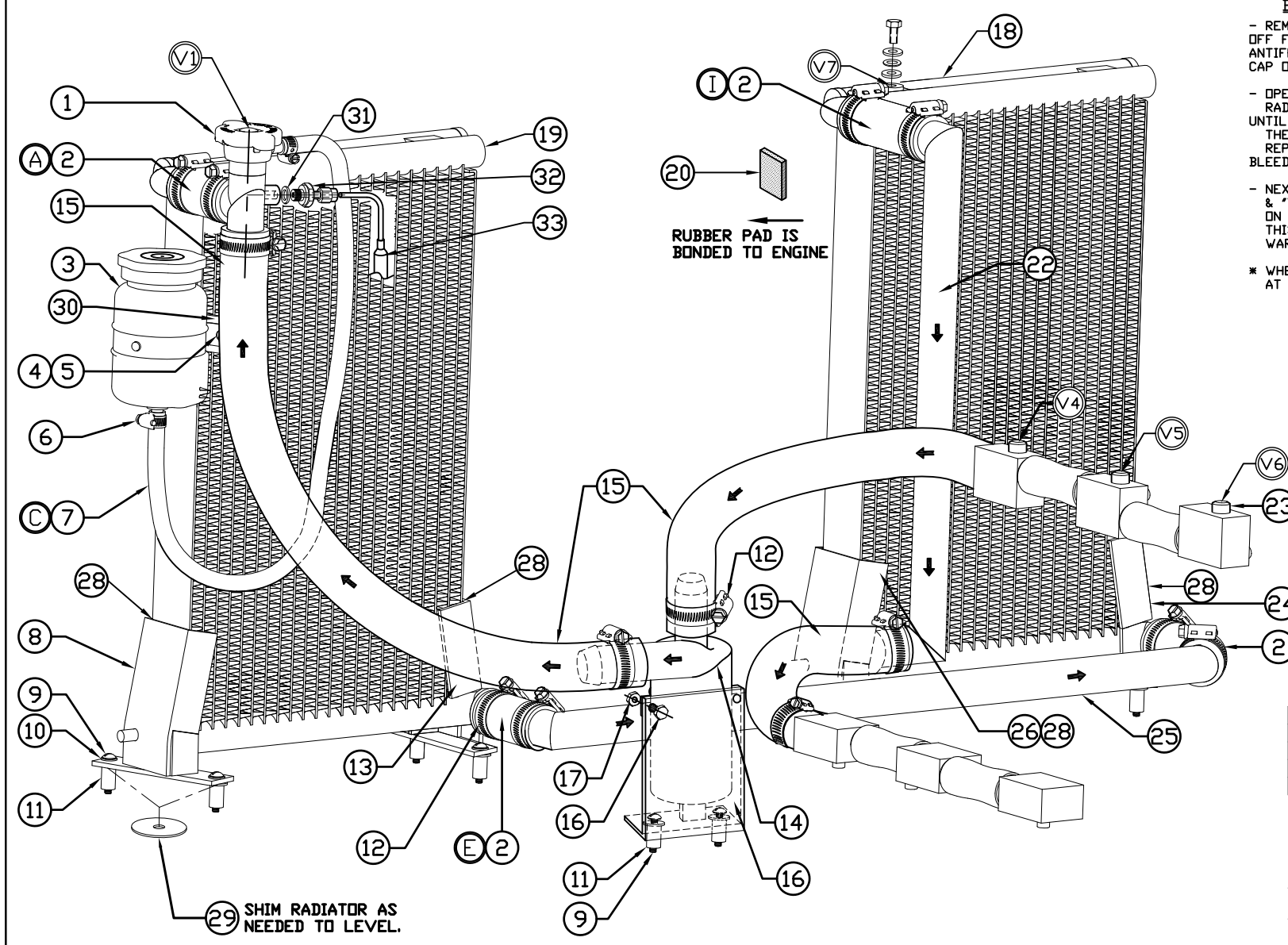
Neoteric Hovercraft Inc

1649 TIPPECANOE STREET
 TERRE HAUTE, INDIANA, U.S.A. 47807-2994
 TELEPHONE: (812) 234-1120 FAX: (812) 234-3217

DRAWN: C. STEIMEL
 DATE: 14 JUL, 2009

NAME: 100HP HIRTH COOLING SYSTEM
 NUMBER: 17114
 REV. 4

REF.	PART #	DESCRIPTION	REF.	PART #	DESCRIPTION	REF.	PART #	DESCRIPTION
1	5941	HIRTH RADIATOR CAP, MODIFIED	12	6802	HOSE CLAMP, SS (CURRENT)	24	5965	HIRTH RADIATOR OUTSIDE MOUNT, STAR. COATED
2	5954	1.00 ID RADIATOR HOSE	13	5964	HIRTH RADIATOR INSIDE MOUNT, PORT COATED	25	5980	HIRTH RADIATOR, LOWER PIPE
3	5948	HIRTH RADIATOR OVERFLOW BOTTLE	14	9648	ELECTRIC WATER PUMP, MODIFIED	26	5976	HIRTH RADIATOR INSIDE MOUNT, STAR. COATED
4	2451	HEX NUT, SS	15	5953	RADIATOR HOSE	27	2371	NYLON WIRE TIE, BLACK
5	2230	BOLT, HEX HD SS	16	9649	ELECTRIC WATER PUMP BRACKET	28	3108	NEOPRENE FABRIC, BLACK
6	2203	SCREW/BAND HOSE CLAMP, SS	17	2451	HEX NUT, SS	29	2516	SHIM WASHER, SS
7	2697	PVC HOSE, CLEAR	18	6412	STARBOARD RADIATOR	30	5968	OVERFLOW BOTTLE MOUNT
8	5975	HIRTH RADIATOR OUTSIDE MOUNT, PORT COATED	19	6411	PORT RADIATOR	31	9446	COPPER SEALING WASHER
9	2266	MACH SCREW, ROUND HD SS	20	9596	ENGINE VIBRATION RADIATOR ISOLATION PAD	32	9435	COOLANT TEMP PROBE COMPRESSION FITTING
10	2362	WASHER, SS	21	2391	HEX BOLT, SS	33	9434	COOLANT TEMP PROBE
11	2552	WELL NUT	22	5979	HIRTH RADIATOR, UPPER PIPE			
12	5961	HOSE CLAMP, SS (OLD STYLE)	23	2469	CAP SCREW, SOCKET HD SS			



BLEEDING THE COOLING SYSTEM

- REMOVE RADIATOR PRESSURE CAP AND TOP OFF FLUID. ITS BEST TO USE A 50/50 ANTIFREEZE (GLYCOL) / WATER MIX. LEAVE CAP OFF.
 - OPEN VENT "V7" ON TOP OF THE STARBOARD RADIATOR AND ALLOW FLUID TO FLOW OUT UNTIL NO AIR IS PRESENT. KEEP TOPPING OFF THE FLUID THROUGH RADIATOR PRESSURE CAP. REPEAT THIS PROCESS FOR EACH OF THE BLEED SCREWS.
 - NEXT LOOSEN AND BLEED SCREWS "V4", "V5", & "V6" ONE AT A TIME. THESE ARE LOCATED ON THE STARBOARD SIDE OF ENGINE. WHEN THIS IS DONE RUN THE ENGINE UNTIL IT IS WARMED UP THEN REPEAT THE ABOVE.
- * WHEN ALL AIR IS REMOVED, CHT SHOULD RUN AT 250° F MAX.

- NOTES:
1. POSITION ALL HOSE CLAMPS AS SHOWN ON THIS FORM.
 2. ALL RADIATOR MOUNTS ARE TO BE LINED WITH NEOPRENE FABRIC.
 3. #12 CURRENT HOSE CLAMPS (#6802).

CJ 5	ADDED ELECTRIC WATER PUMP, REMOVED TEE, THERMOSTAT, OLD WATER PUMP	17 JAN, 2020
CJ 4	ADDED RESTRICTOR AND TEE FITTING, CORRECTED GEOMETRY	21 MAY, 2019
CJ 3	UPDATED HOSE CLAMPS AND THERMOSTAT	13 MAR, 2018
CS 2	UPDATED TO STD II, REMOVED DESCRIPTIONS	3 JUN 2014
SIG. NO.	REVISION	DATE

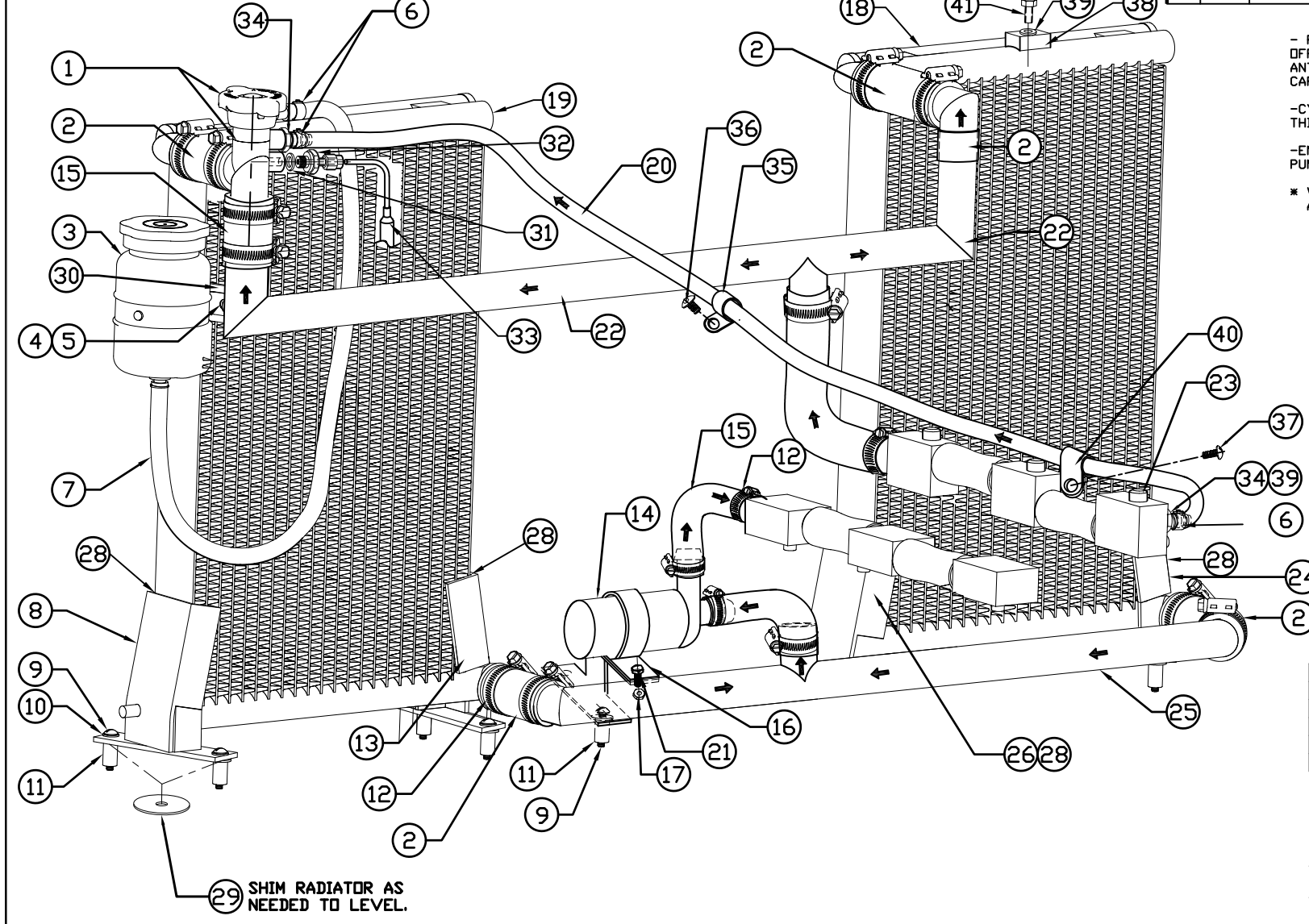
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1649 TIPPECANOE STREET
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DRAWN: C. STEIMEL
 DATE: 14 JUL, 2009

NAME: 100HP HIRTH COOLING SYSTEM
 NUMBER: 17114
 REV. 5

REF. PART #		DESCRIPTION	PARTS LIST		REF. PART #	DESCRIPTION		
1	5941	HIRTH RADIATOR CAP, MODIFIED	14	9648	ELECTRIC WATER PUMP, MODIFIED	28	3108	NEOPRENE FABRIC, BLACK
1	7681	HIRTH RADIATOR CAP, REPLACEMENT (SPARE PART)	15	5953	RADIATOR HOSE	29	2516	SHIM WASHER, SS
2	5954	1.00 ID RADIATOR HOSE	16	9649	ELECTRIC WATER PUMP BRACKET	30	5968	OVERFLOW BOTTLE MOUNT
3	9630	HIRTH RADIATOR OVERFLOW BOTTLE, MODIFIED	17	2451	HEX NUT, SS	31	9446	COPPER SEALING WASHER
4	2451	HEX NUT, SS	18	6412	STARBOARD RADIATOR	32	9435	COOLANT TEMP PROBE COMPRESSION FITTING
5	2230	BOLT, HEX HD SS	19	6411	PORT RADIATOR	33	9434	COOLANT TEMP PROBE
6	3396	PINCH HOSE CLAMP, SS	20	9884	STEAM TUBE	34	5630	BARB HOSE FITTING
7	2697	PVC HOSE, CLEAR	21	2391	HEX BOLT, SS	34	9887	BARB HOSE FITTING (OPTIONAL)
8	5975	HIRTH RADIATOR OUTSIDE MOUNT, PORT COATED	22	9888	PARALLEL RADIATOR UPPER TUBE	35	9901	CLIP SS, MODIFIED
9	2266	MACH SCREW, ROUND HD SS	23	2469	CAP SCREW, SOCKET HD SS	36	6362	SCREW
10	2362	WASHER, SS	24	5965	HIRTH RADIATOR OUTSIDE MOUNT, STAR. COATED	37	2343	SCREW
11	2552	WELL NUT	25	9889	PARALLEL RADIATOR LOWER TUBE	38	9900	BLEED SCREW BASE MOUNT
12	6802	HOSE CLAMP, SS (CURRENT)	26	5976	HIRTH RADIATOR INSIDE MOUNT, STAR. COATED	39	5629	BLEED SCREW WASHER
13	5964	HIRTH RADIATOR INSIDE MOUNT, PORT COATED	27	2371	NYLON WIRE TIE, BLACK	40	3466	P-CLIP
						41	2230	BLEED SCREW



BLEEDING THE COOLING SYSTEM

- REMOVE RADIATOR PRESSURE CAP AND TOP OFF FLUID. ITS BEST TO USE A 50/50 ANTIFREEZE (GLYCOL) / WATER MIX. LEAVE CAP OFF.
- CYCLE ELECTRIC WATER PUMP SEVERAL TIMES. THIS SHOULD CYCLE ALL AIR OUT OF SYSTEM.
- ENSURE TO TOP OFF RADIATOR CAP AS CYCLING PUMP, TO NOT ALLOW AIR INTO SYSTEM.
- * WHEN ALL AIR IS REMOVED, CHT SHOULD RUN AT 250° F MAX.

- NOTES:
1. ALL RADIATOR MOUNTS ARE TO BE LINED WITH NEOPRENE FABRIC.
 2. (#12) CURRENT HOSE CLAMPS (#6802).

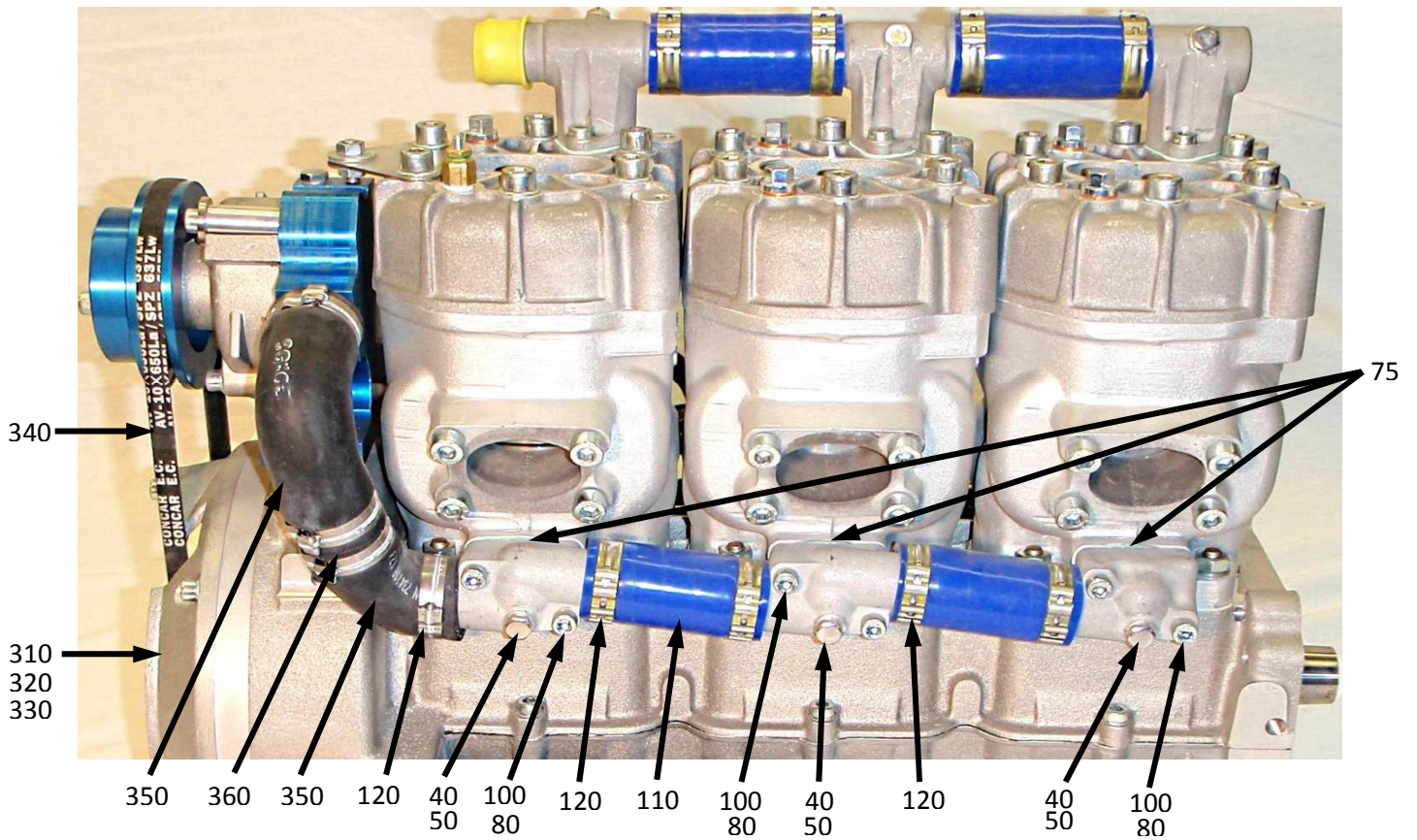
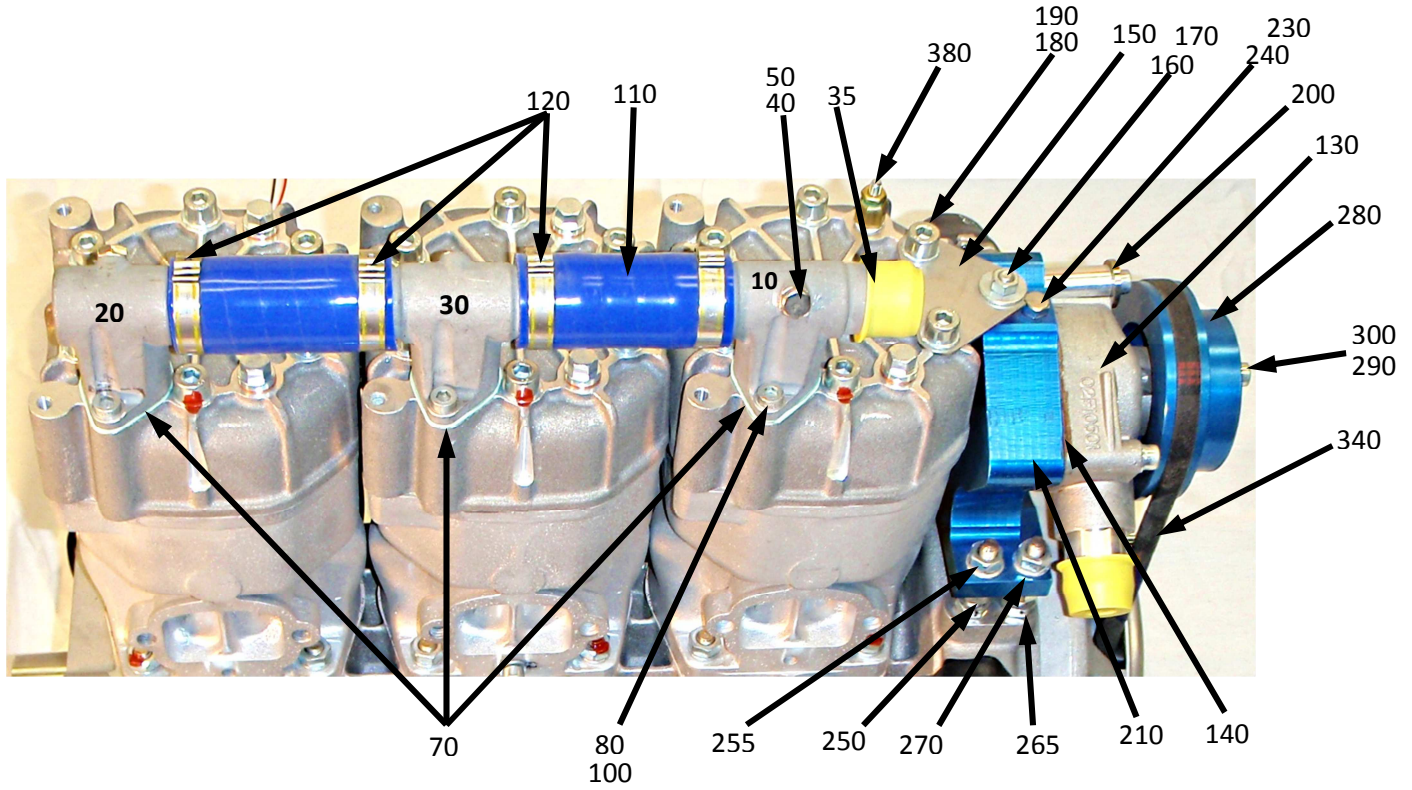
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CJ 6	UPDATED TO PARALLEL RADIATOR SYSTEM	13 MAY, 2021
CJ 5	ADDED ELECTRIC WATER PUMP, REMOVED TEE, THERMOSTAT, OLD WATER PUMP	17 JAN, 2020
CJ 4	ADDED RESTRICTOR AND TEE FITTING, CORRECTED GEOMETRY	21 MAY, 2019
CJ 3	UPDATED HOSE CLAMPS AND THERMOSTAT	13 MAR, 2018
CS 2	UPDATED TO STD II, REMOVED DESCRIPTIONS	3 JUN 2014

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 TELEPHONE: (812) 234-1120 FAX: (812) 234-3217

DRAWN: C. STEIMEL
 DATE: 14 JUL, 2009

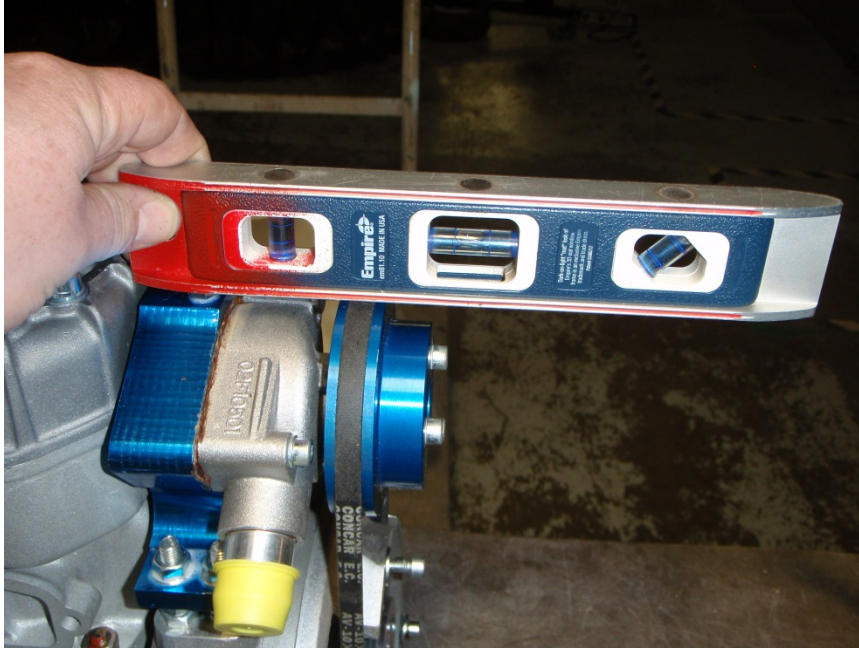
NAME: 100HP HIRTH COOLING SYSTEM
 NUMBER: 17114
 REV. 6



Cooling system 3701

Fig. No.	Quantity	Designation	Neoteric Part No	
10	2	Inlet intermediate piece	7171	
20	2	Inlet end piece	7172	
30	2	Inlet intermediate piece	7173	
35	2	Plug	7174	
40	6	Hexagon head screw	6927	Loctite 242
50	6	Sealing ring, aluminum	5629	
65	6	Cylinder screw	2292	
70	3	Sealing joint Gasket	6095	
75	3	Sealing joint Gasket	6095	
80	12	Cylinder screw	6911	Loctite 242
100	18	Locking washer	6902	
110	4	Coolant hose	7176	
120	12	Hose clamp	6802	
	1	Water pump and housing	7178	Contains Pos. 130-240
130	1	Water pump	7179	
140	1	Sealing joint f. water pump	7180	
150	1	Holder for water pump clamping	7181	
160	1	Cylinder screw	7182	Loctite 242
170	1	Washer	6936	
180	3	Cylinder screw	7183	Loctite 242
190	2	Washer	6916	
200	1	Washer	5996	
210	1	Casing for water pump	7184	
230	1	Hexagon head screw	6927	Loctite 242
240	1	Sealing ring, aluminum	5629	
250	4	Stay bolt	7185	Loctite 242
255	4	Hexagon head nut	7186	Loctite 242
265	8	Hexagon head nut	6233	
270	12	Washer	6162	Loctite 242
280	1	Water Pump Pulley	6645	
280	1	Water Pump Pulley SS	7613	
290	3	Cylinder screw	7189	
300	3	Washer	6916	
310	1	Driver Pulley	6646	see forms: 17458rev2 and 16673rev2 bellow
310	1	Driver Pulley SS	7612	
320	4	Cylinder screw	7189	
330	4	Locking washer	6902	
340	1	V-Belt	6104	
350	2	Coolant hose 90°	7190	
360	1	Connection tube	7191	
380	1	Water Temp Sender	6277	

100HP Water Pump Belt Tension



1. Make sure Water Pump & Housing Assy is level.
2. Failure to do this will give an inaccurate tension reading and premature wear of #6104 Metric V-Belt.
3. Attach a rope to Metric V-Belt in a loop.
4. Attach other end to a pull scale.



#310 on form above
6646- Driver Pulley
7612 -Driver Pulley, SS

5. Pull 1.5 lbs on scale, Metric V-Belt should travel direction you are pulling 3 to 5 mm.
6. Find a point to measure from so your readings are accurate.
7. Continue to raise Water Pump & Housing Assy until tension is achieved.

Hirth 100HP Ignition System

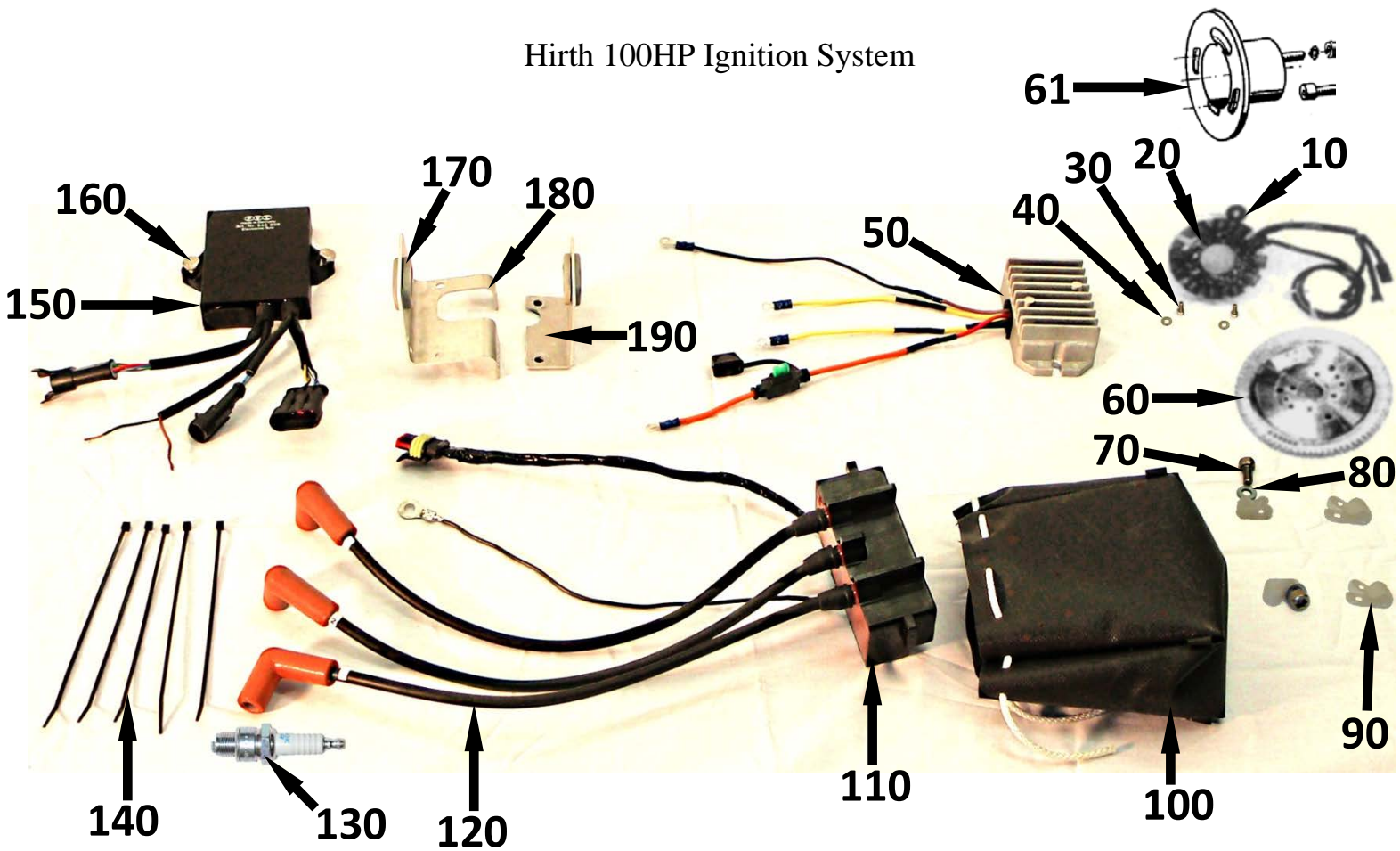


Fig. No.	Qty	Description	Neoteric Part #	Remark / Notes
10	1	Grommet	7194	Not to Scale
20	1	Armature plate, complete	6564	Not to Scale
30	2	Cylinder screw	7182	Torque = 4 - 4.5 Nm (3 - 3.3 ft-lb) & Loctite 243
40	2	Washer	6936	
50	1	Voltage Regulator	5338	
60	1	Magnet flywheel, complete	7195	Not to Scale
61	1	Magnet support	5724	
70	4	Cylinder Screw	6901	
80	4	Lock Washer	6902	
90	4	Plastic P-Clip	2192	
100	1	Coil Bag	6705	
110	1	100HP Ignition Coil	7053	
120	1	Spark Plug Lead Set	7056	Must be purchased as a set (contains black boots; not shown)
120	-	Spark Plug Lead, Old Style	7343*	*No longer available; Must purchase set 7056 (contains red boots as shown above)
130	3	Spark Plug	6187	
140	1	Nylon Wire Tie	2372	
150	1	100HP Modified CDI	7814	
160	2	Hex Bolt	2230	
170	2	Mount Plate Grommet	6806	No Longer Used
180	2	Outer Coil Mount Plate	5883	No Longer Used
190	3	Inner Coil Mount Plate	7197	No Longer Used

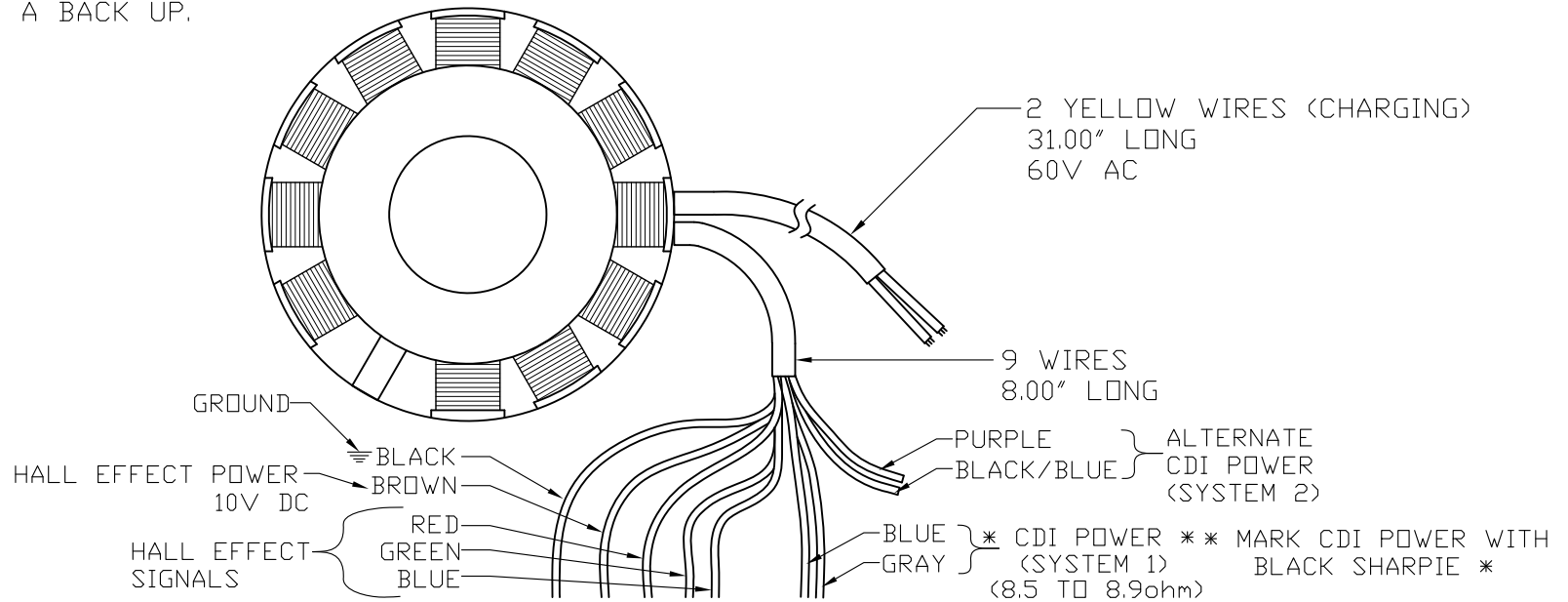
NOTES:

- 1) 3 HALL EFFECT SENSORS ON PLATE GENERATE TIMING PULSE.
- 2) HALL EFFECT POWER 10V DC.
- 3) ALWAYS USE SYSTEM 1. SYSTEM 2 IS A BACK UP.

BILL OF MATERIAL			
REF.	PART #	DESCRIPTION	QTY.
	6564	100HP ARMATURE STATOR PLATE COMPLETE	1

BLACK AND BROWN: HALL EFFECT POWER
 RED, GREEN, AND BLUE: HALL EFFECT SIGNAL

11 WIRES




OHM VALUES

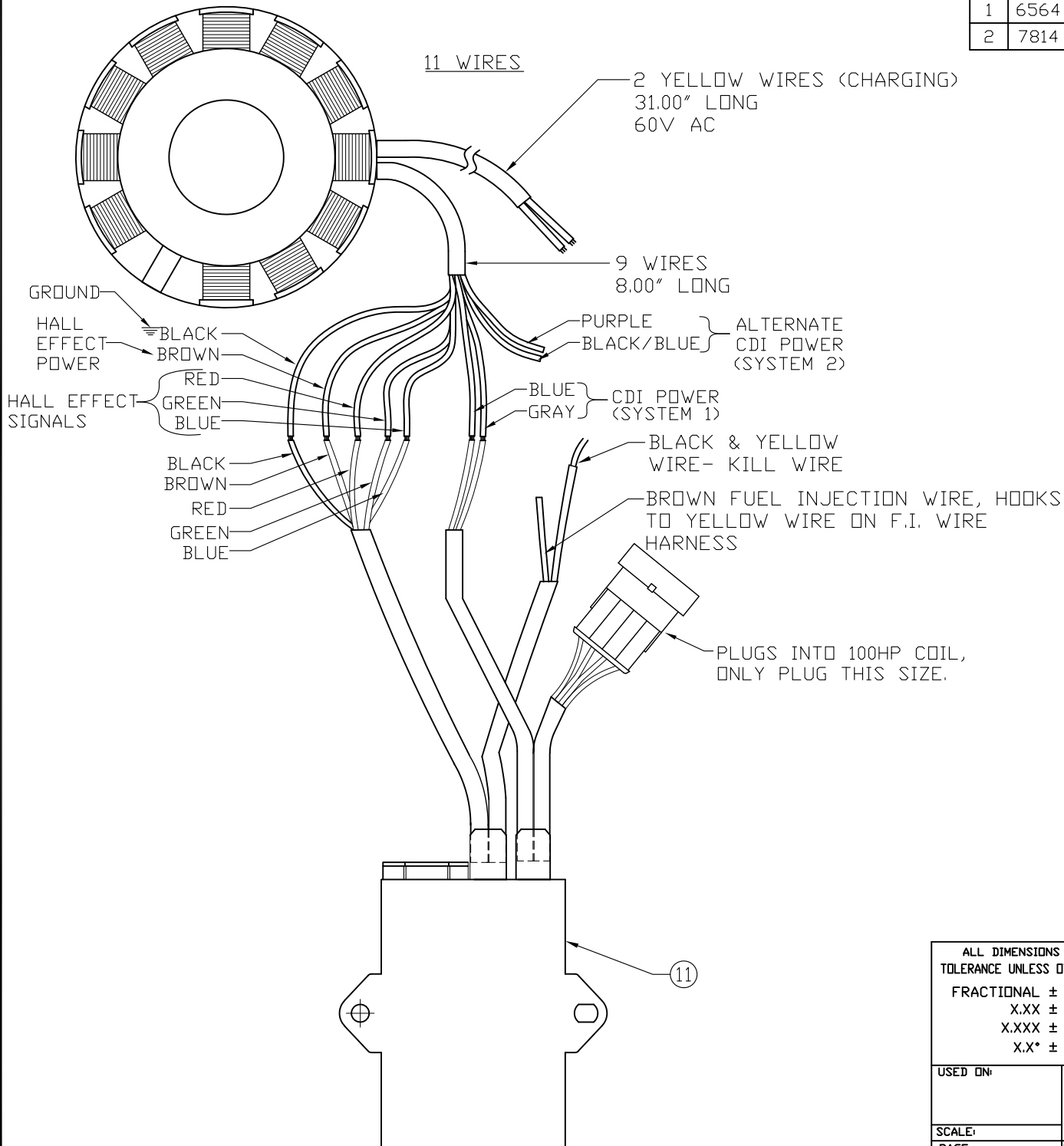
- YELLOW & YELLOW: 0.08 ohm
- YELLOW TO GROUND: 3M ohm
- PURPLE TO BLACK & BLUE: 8.76 ohm
- PURPLE TO GROUND: 3M ohm
- BLACK & BLUE TO GROUND: 3M ohm.
- BLUE TO GRAY: 8.87 ohm.
- BLUE TO GROUND: 3M ohm.
- GRAY TO GROUND: 3M ohm.

DISCONNECT KILL SWITCH (BLUE OR BLACK) 250DC MEASURE.

TO FIND BLUE WIRE FOR CDI POWER MEASURE BOTH BLUE WIRES WITH GRAY WIRE. SHOULD MEASURE 8.5 TO 8.9 ohm. BLUE WIRE THAT MEASURES 8.5 TO 8.9 ohm IS CDI POWER WIRE, GETS PAIRED WITH GRAY WIRE.

ALL DIMENSIONS IN IN AND [mm] TOLERANCE UNLESS OTHERWISE SPECIFIED: FRACTIONAL ± 1/32" [0.8] X.XX ± 0.016" [0.40] X.XXX ± 0.005" [0.13] X.X° ± 0.10°		SIG. NO.	REVISION	DATE
USED ON:	CHECKED:	 1649 TIPPECANOE STREET TERRE HAUTE, INDIANA, U.S.A. 47807-2394 TELEPHONE (812) 234-1120 FAX (812) 234-3217		
SCALE:				
PAGE: 1 OF 2	WEIGHT:			
DRAWN: CJ POEHLEIN		NAME: 100HP HIRTH ARMATURE PLATE		REV. 2
DATE: 5 JAN, 2017		NUMBER: 16645		


BILL OF MATERIAL			
REF.	PART #	DESCRIPTION	QTY.
1	6564	100 HP ARMATURE (STATOR) PLATE	1
2	7814	100HP CDI UNIT, MODIFIED	1



WIRING HOOKUPS FOR MAGNETO TO CDI
100HP ENGINES

BLACK AND BROWN: HALL EFFECT POWER

RED, GREEN, AND BLUE: HALL EFFECT
SIGNAL

ALL DIMENSIONS IN IN AND [mm]		TOLERANCE UNLESS OTHERWISE SPECIFIED:	
FRACTIONAL ± 1/32" [0.8]		SIG. NO.	
X.XX ± 0.016" [0.40]		REVISION	
X.XXX ± 0.005" [0.13]		DATE	
X.X* ± 0.10*			
USED ON:	CHECKED:	1649 TIPPECANOE STREET TERRE HAUTE, INDIANA, U.S.A. 47807-2394 TELEPHONE (812) 234-1120 FAX (812) 234-3217	
SCALE:	WEIGHT:	DRAWN: CJ POEHLEIN	NAME: 100HP HIRTH ARMATURE PLATE
PAGE: 2 OF 2		DATE: 5 JAN, 2017	NUMBER: 16645 REV. 2

100HP Carbureted Engine

Offered Jan 2016

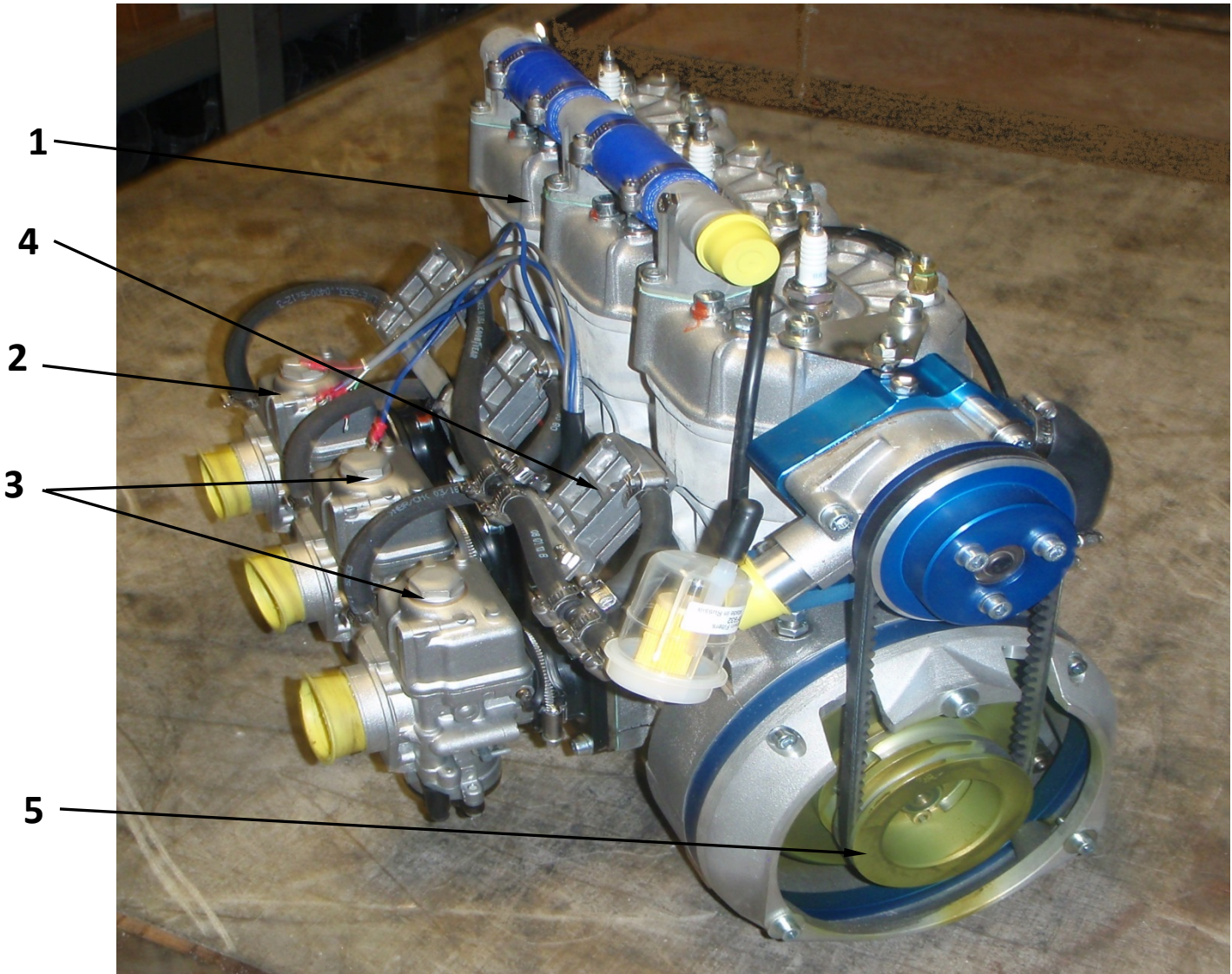
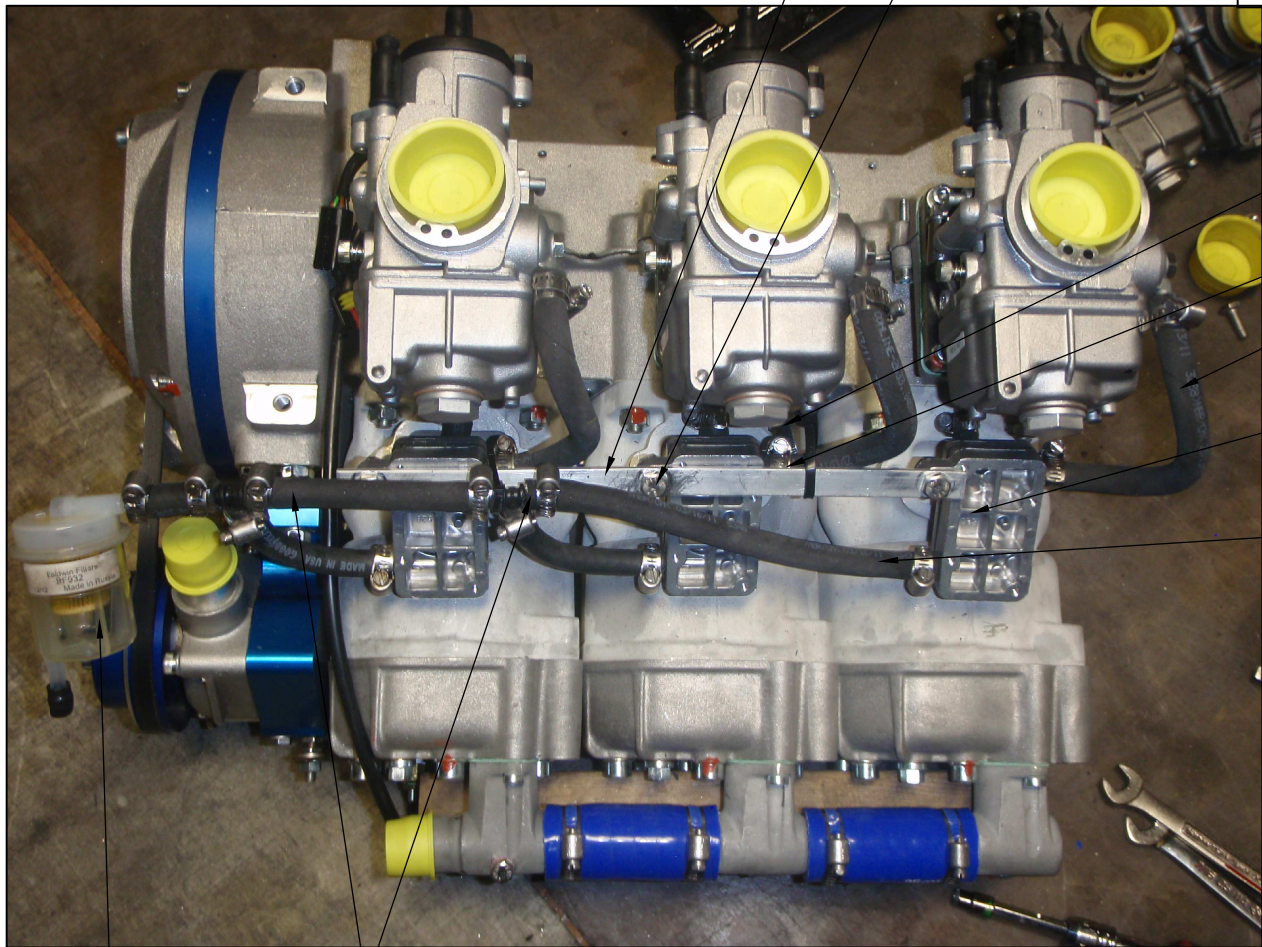



Fig No.	Quantity	Description	Neoteric Part No.	Notes
1	1	100HP Carbureted Engine	9219	Offered June 2016
2	1	Carburetor (left)	9266	
3	2	Carburetor (right)	9267	Only for 100HP Carb.
4	1	100HP Carb Fuel System	7211	Only for 100HP Carb.
5		Water Pump Driver Pulley	6646	
5		Water Pump Driver Pulley, SS	7612	

BILL OF MATERIAL			
REF.	PART #	DESCRIPTION	QTY.
1	2192	NYLON P-CLIP	1
2	2371	NYLON WIRE TIE, BLACK	2
3	1302	FUEL FILTER	1
4	3000	FUEL HOSE, BLACK	41.25
5	9149	SINGLE FEED FUEL PUMP	3
6	2203	WORM-GEAR HOSE CLAMP, SS	22
7	2391	HEX BOLT, SS	3
8	2451	HEX NUT, SS	3
9	3188	THREAD LOCK ADHESIVE, RED	2
10	3397	ALUMINUM PLATE	10.50
11	5427	FUEL TEE FITTING	2



- ①
- ②
- ③
- ④
- ⑤
- ⑥
- ⑦
- ⑧
- ⑨
- ⑩
- ⑪

SIG. NO.	REVISION	DATE
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Neoteric Hovercraft Inc.

1649 TIPPECANOE STREET
 TERRE HAUTE, INDIANA, U.S.A. 47807-2394
 TELEPHONE (812) 234-1120 FAX (812) 234-3217

DRAWN: CJ POEHLEIN	NAME: 100HP CARBURETED FUEL SYSTEM
DATE: 10 JUNE, 2016	NUMBER: 16674
	REV. 2

USED ON:	CHECKED:
SCALE:	
PAGE: 1 OF 1	WEIGHT:

**65HP Hirth Carburetor / Fuel mixture
(3203)**

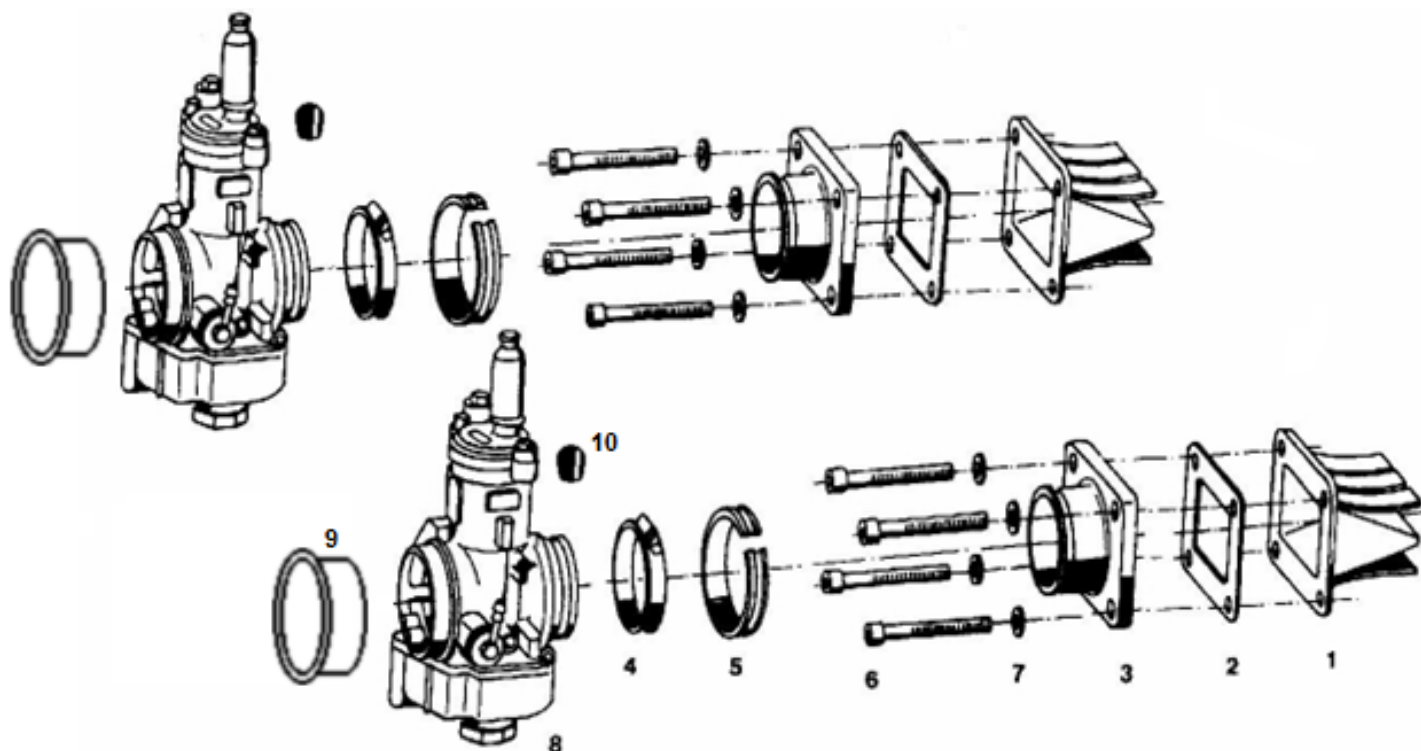
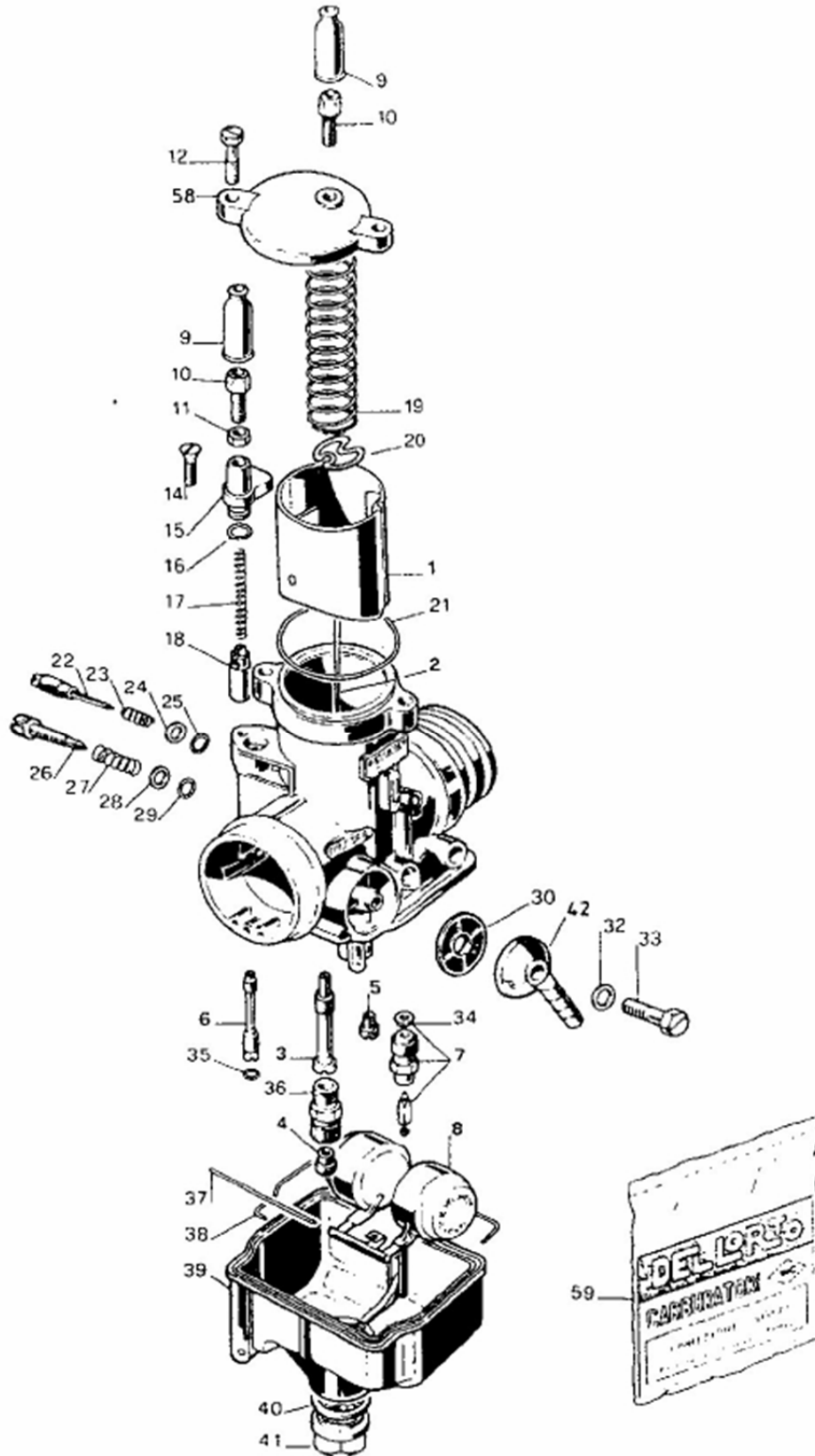


Fig No.	Qty.	Description	Neoteric Part #	Remark/Note
1	2	Reed valve	7203	
2	2	Gasket	5463	
3	2	Intake manifold/carb flange	6568	
4	2	Hose clamp	9018	
5	8	Rubber	9019	
6	8	Cylinder screw	7183	Torque = 9.6 - 11 Nm (7.1 - 8.1 ft-lb) Loctite 243
7	2	Washer	6916	
8	2	Dellorto Carburetor	5355	See Form 17754 / 17755 for Carb Parts
9	2	Protective stopper	7207	
10		Hirth Rubber Socket	7208	

Carburetor (Dellorto) PHBE 34



Carburetor (Dellorto) F 33 A (PHBE 34 BD 6832)

Fig. No.	Qty.	Description	Neoteric Part #	Remark/Note
1	1	Throttle slide	9022	
2	1	Jet needle, K36	6563	See Form # 17367 for all Dellorto Jets
3	1	Needle jet	-	
4	1	Main jet	-	
5	1	Idle jet, 65	9023	
6	1	Cold start / Choke jet	7788	
7	1	Float valve	9024	
8	1	Float	6909	
9	2	Rubber cap	6113	*Included in 7828 Kit
10	1	Choke Cable Adjustment	7828	*Must Purchase 7828 Kit
11	1	Choke Cable Adjustment Locknut	7828	*Must Purchase 7828 Kit
12	2	Top Cover Screw	9027	
14	1	Choke Support Screw	9028	*Must Purchase 7828 Kit
15	1	Choke Support Casting	9029	*Must Purchase 7828 Kit
16	1	Choke Support O-ring	7828	Included in Pos. 59
17	1	Choke Valve Spring	9030	*Must Purchase 7828 Kit
18	1	Choke valve	7828	*Must Purchase 7828 Kit
19	1	Throttle Slide Spring	9025	
20	1	Bracket plate	6973	
21	1	Top Cover O-Ring	9026	Included in Pos. 59
22	1	Mixture Adjustment Screw	9031	
23	1	Mixture Adjustment Spring	9032	
24	1	Mixture Adjustment Washer	9033	
25	1	Mixture Adjustment O-ring	-	Included in pos. 59
26	1	Idle Adjustment Screw	9034	
27	1	Idle Adjustment Spring	9035	
28	1	Idle Adjustment Washer	9036	
29	1	Idle Adjustment O-ring	-	Included in Pos. 59
30	1	Fuel Inlet Filter	9037	
32	1	Fuel Inlet O-ring	-	Included in Pos. 59
33	1	Fuel Inlet Screw	9038	
34	1	Needle Valve Gasket Washer	-	Included in Pos. 59
35	1	Cold Start / Choke O-ring	-	Included in Pos. 59
36	1	Main jet holding screw	9039	
37	1	Float Pivot Pin	9040	
38	1	Sealing for float chamber	9296	Included in Pos. 59
39	1	Float Bowl	9041	
40	1	Float Bowl Gasket Washer	7213	Included in Pos. 59
40	1	Float Bowl Gasket O-Ring	2739	Optional Replacement For Washer
41	1	Float Bowl Nut	9042	
42	1	Fuel Inlet Nipple	6114	
58	1	Carburetor Top Cover	9043	
59	1	Gasket set	5468	Includes Pos. 16,21,25,29,32,34,35,38,40

**65HP (PHBE) Dellorto Carb Jets
Parts List**

Qty.	Description	Neoteric Part #	Remark / Note
1	Main Jet, 155	5443	
	Main Jet, 142	5444	
	Main Jet, 145	5467	
	Main Jet, 160	5863	
	Main Jet, 150	9294	
	Main Jet, 158	6193	
1	Idle Jet, 65	9023	
1	Cold Start / Choke Jet, 90	7788	
1	Atomizer / Needle Jet, AB/266	5726	
	Atomizer / Needle Jet, AB/262	5760	
	Atomizer / Needle Jet, AB/268	6194	
1	Jet Needle, K36	6563	

100HP Carbureted Engine Saltwater Package

Offered Jan 2016

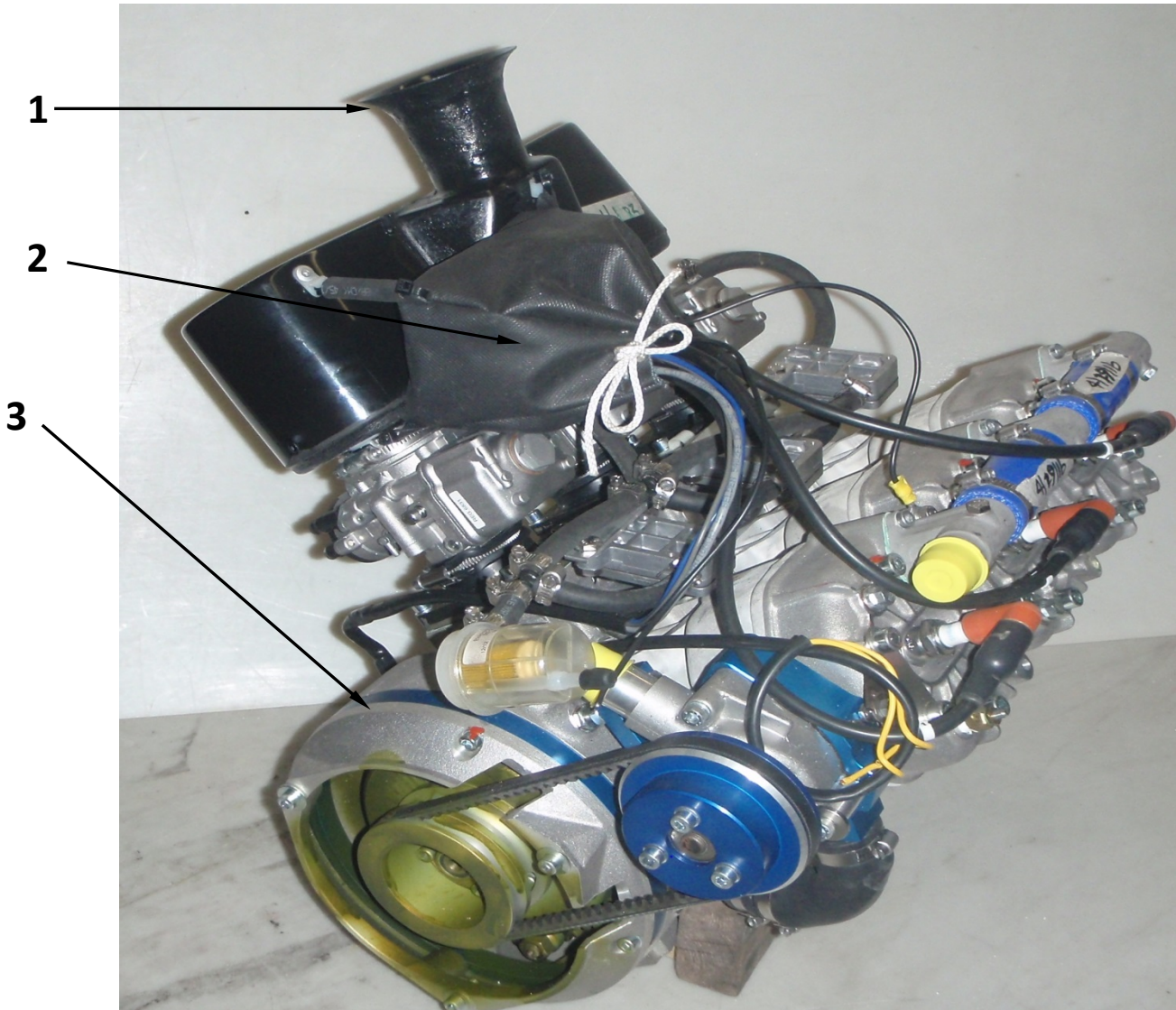


Fig No.	Quantity	Description	Neoteric Part No.	Notes
1	1	HT6 Saltwater Air Intake Filter Box Assembly	6703	
2	1	100HP Coil & CDI Assembly	9157	
3	1	100HP Carbureted Engine Modified	9219	Offered June 2016

3-Cylinder Fuel Injection Electrical System

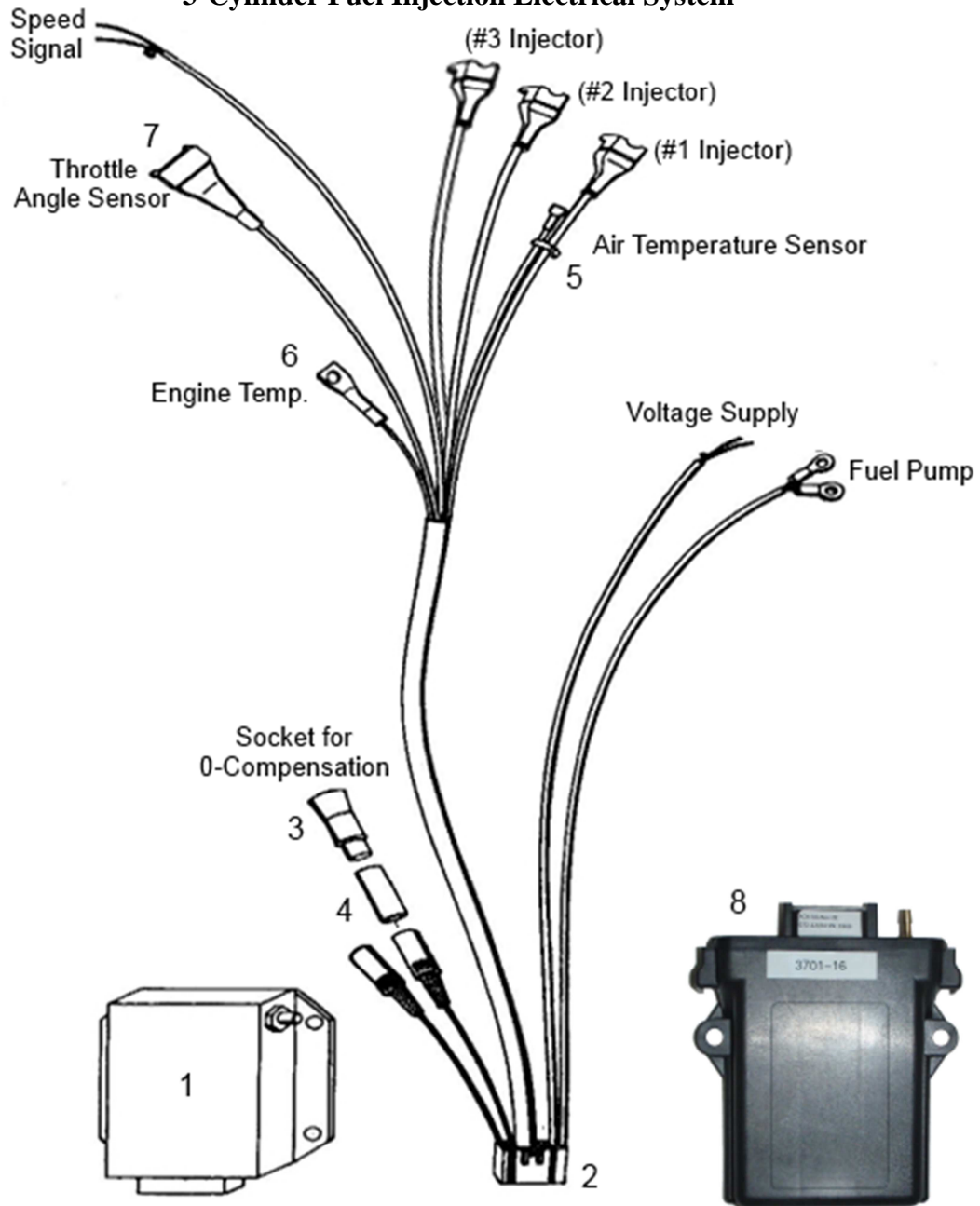


Fig.No.	Qty	Description	Neoteric Part #	Note
1	1	Red Computer Box	5616	Used on Early HoverTrek Models
2	1	Cable harness, Red	6453	Harness for Red Computer Box
2	1	Cable harness, Black	6210	Harness for Black Computer Box
3	1	0-compensation plug	7205	Used when optional manual enrichment device not used -
4	1	Shrink tube	3192	Place on plug with 3 wires (cable colors red, blue, black) 60 denotes length in mm
5	1	Air Temp Sensor	7525	
6	1	Engine Temp Sensor	7526	Attached to Cylinder Head
7	1	Throttle Pos. Sensor	7567	
8	1	Black Computer Box	6383	Used on Current HoverTrek Models

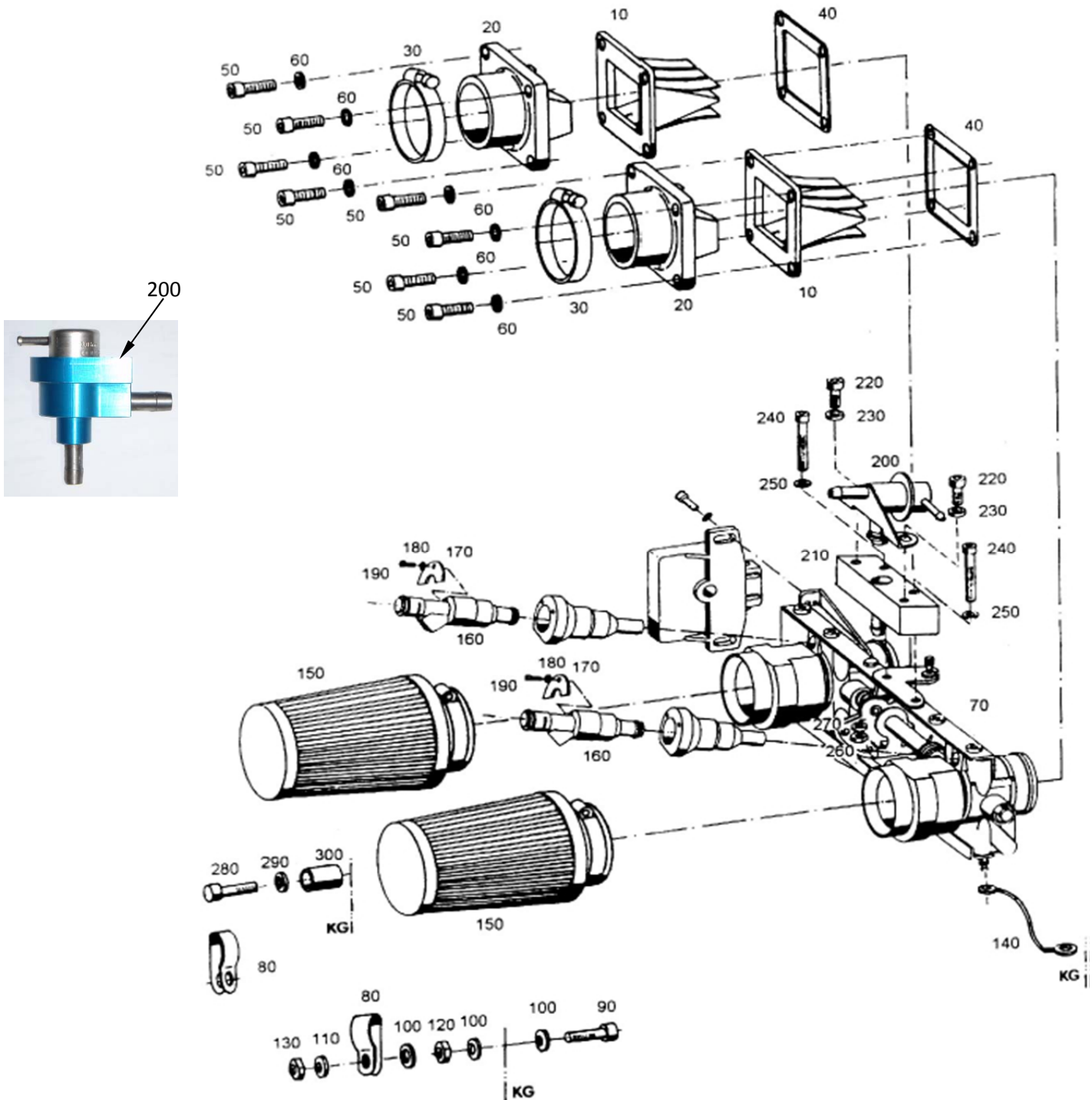
Fuel injection horizontal 3701



Fig. No.	Quantity	Description	Neoteric Part #	Remark note
1	3	Reed valve assembly	7203	
2	3	Gasket	5463	
3	12	Cylinder screw	2289	
4	12	Washer	6916	
5	3	Rubber carburetor flange	6568	
6	3	Rubber socket	7208	
7	1	Ground cable	6454	
8	1	Cable clip	7206	
9	1	Throttle manifold	6182	

65HP Fuel Injection shown for simplicity
100HP Fuel Injection uses same part #'s

Fuel Injection /Fuel mixture 3203



Hirth 65HP Fuel Injection / Fuel mixture

Fig. No.	Qty.	Description	Neoteric Part #	Remark / Notes
10	2	Reed valve	7203	
20	2	Intake manifold	6568	
30	2	Hose clamp	9008	
40	2	Gasket	5463	
50	8	Cylinder screw	2292	Torque = 9.6 - 11 Nm (7.1 - 8.1 ft-lb)
60	8	Washer	6916	
70	1	Throttle manifold	5594	
80	2	Clamp	6929	
90	1	Cylinder screw	6901	Torque = 9.6 - 11 Nm (7.1 - 8.1 ft-lb)
100	3	Washer	6916	
110	1	Washer	5996	
120	1	Hexagon head nut	9009	
130	1	Hexagon head nut, self.	5572	
140	1	Ground cable	6454	
150	2	Air filter	6622	
160	2	Fuel Injector, Old Style	6904	*Used up to May-2011 (Engine #902754 & Lower)
160	-	Fuel Injector, New Style	6903	Currently used, from May-2011 onward (Engine #902754 & Higher)
170	2	Injector Holding plate	9010	
180	2	Washer	9011	
190	2	Cylinder screw	9012	Loctite 243
200	-	Pressure regulator, Old Style	7188	Shown in illustration; *Used up to May-2011 (Engine #902754 & Lower)
200	1	Pressure regulator, New Style	7932	Currently used, from May-2011 onward (Engine #902754 & Higher)
200	-	Pressure regulator, Replacement	7279	Compatible with both old & new styles
210	1	Pressure regulator holder, complete	9013	
220	2	Cylinder screw	7189	Torque = 9.6 - 11 Nm (7.1 - 8.1 ft-lb)
230	2	Washer	6916	
240	2	Cylinder screw	9014	Loctite 243
250	2	Washer	6936	
260	2	Hexagon head nut	9015	
270	2	Washer	9016	
280	1	Cylinder screw	9017	
290	1	Washer	6936	
300	1	Bushing	6935	

Hirth Fuel System

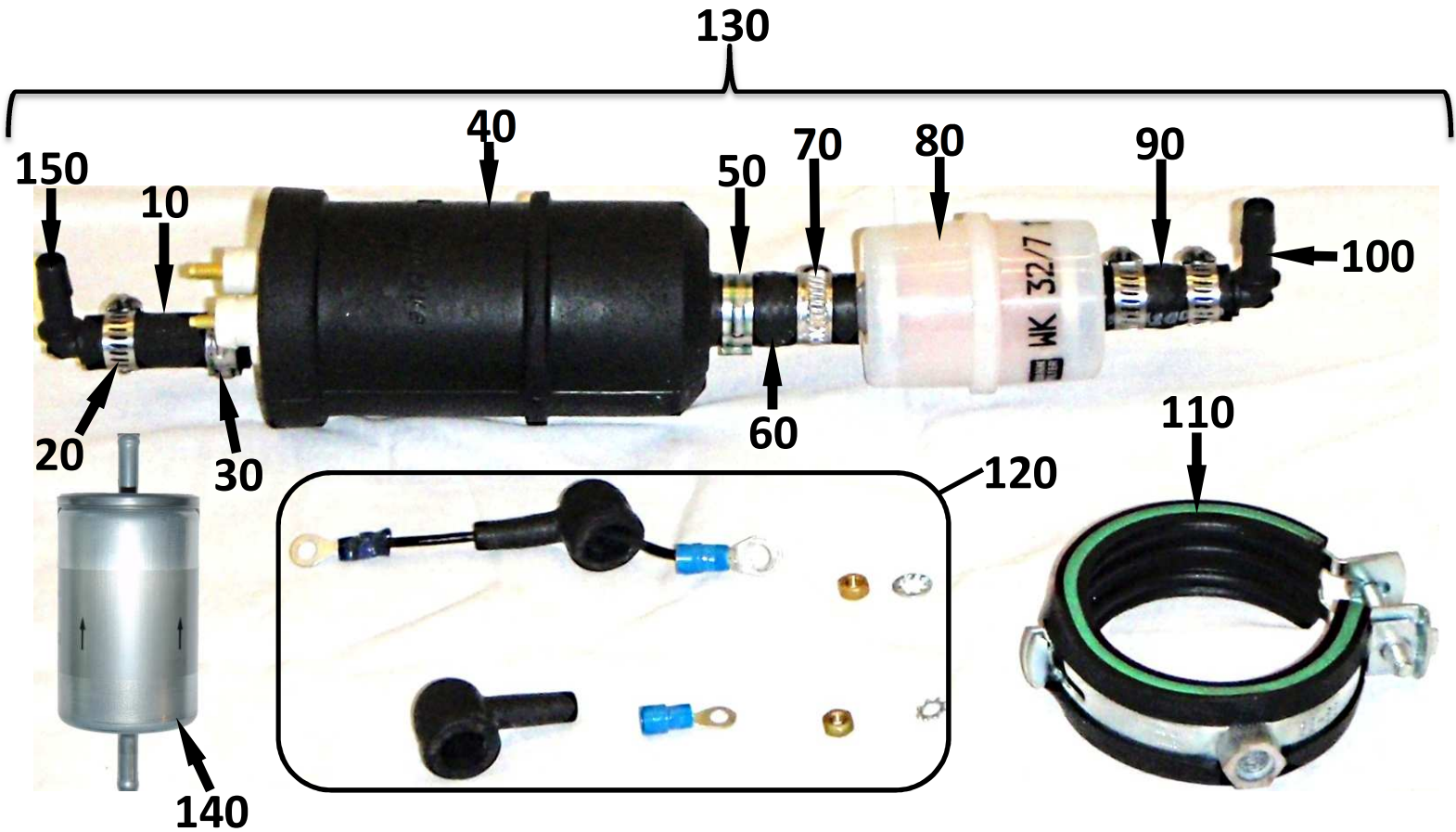


Fig. No.	Qty.	Description	Neoteric Part #	Remark / Notes
10	1	Fuel Line	6335	
20	3	Screw/Band Hose Clamp	2203	
30	1	Pinch Hose Clamp, Sm	5993	
40	1	Electric Fuel Pump	6414	
50	1	Pinch Hose Clamp, Lg	5986	
60	1	Fuel Line	6334	
70	1	Gapless Hose Clamp	6943	
80	1	Fuel Filter	5372	
90	3"	Fuel Line	3193	
100	1	Large Elbow	2674	
110	1	Fuel Pump Holder	6336	
120	1	Fuel Pump Connection Kit	6628	
130	-	Fuel Pump Assy	6666	Includes Fig No. 10 - 120
140	1	Micro Fuel Filter	5373	
150	1	Small Elbow	2438	

Starter / Flywheel Cover

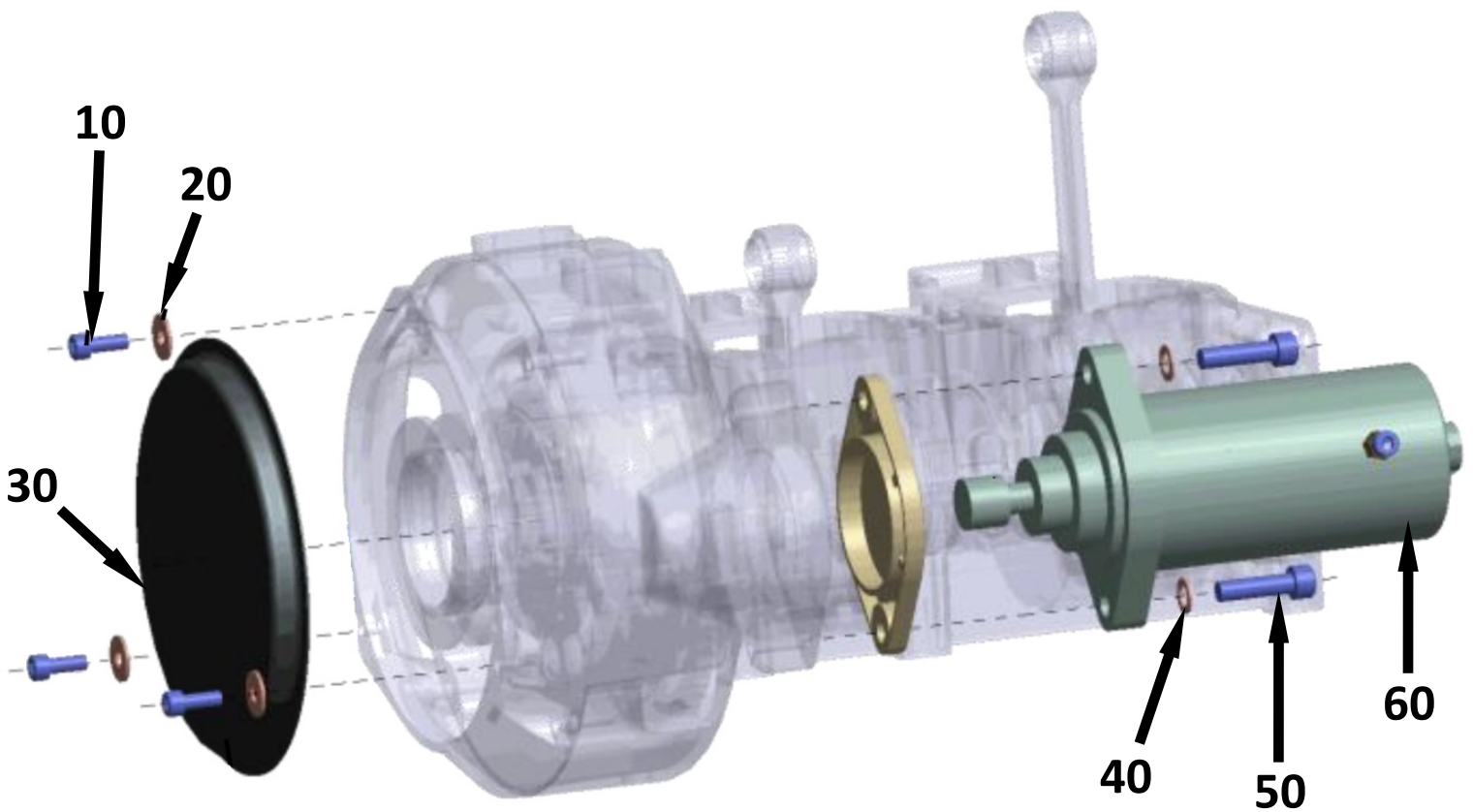
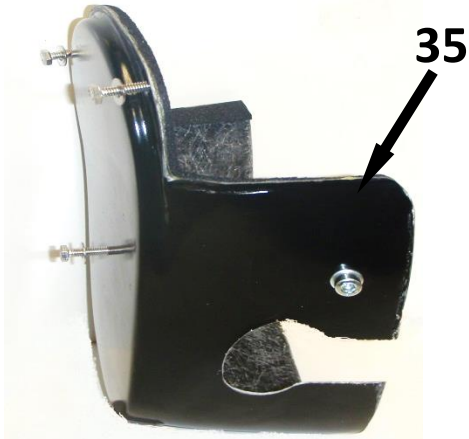
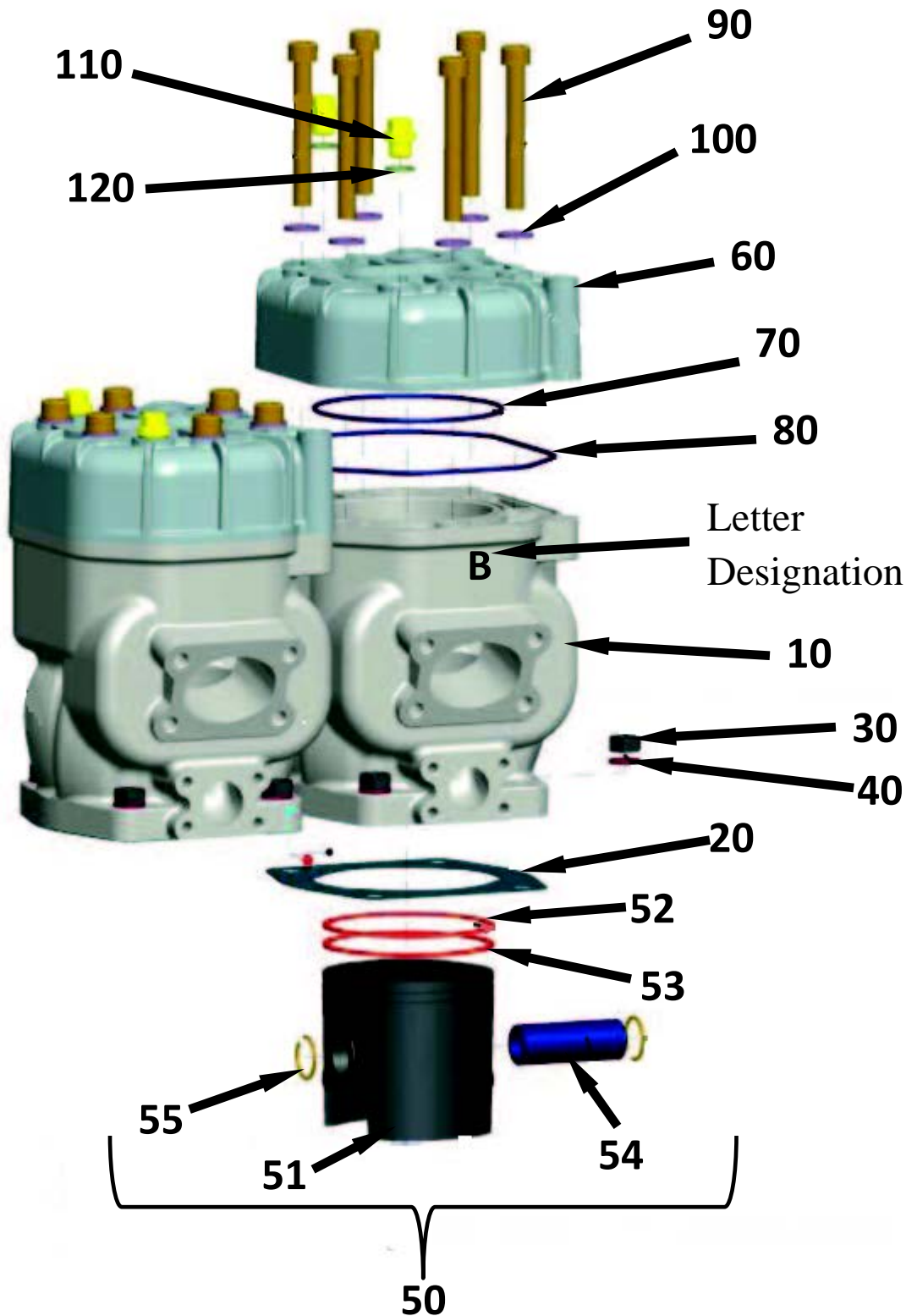


Fig. No.	Qty.	Description	Neoteric Part #	Remark / Notes
10	3	Cylinder Screw	9074	
20	3	Flat Washer	5996	
30	1	Flywheel Housing Cover Plate	9075	
35	1	Fiberglass Water Pump Cover	9073	Replaced housing cover plate, 2015
40	2	Serrated Lock Washer	5995	
50	2	Cylinder Screw	2348	
60	1	Electric Starter (OEM) (old use 9309)	6982	Shown Above
60	-	Electric Starter (Replacement)	9309	Not Shown

Hirth 100HP Cylinder Parts Drawing



Note: 3rd Cylinder
Not Shown in
Drawing

Cyl. Marked with
Letters A, B, or C.
Piston Marked with
corresponding Letter.
Note proper Cyl. Letter
when ordering.

Hirth 100HP Cylinder Parts List

Fig. No.	Qty	Description	Neoteric Part #	Remark note
10	3	Cylinder	6090	Cylinders Marked w/ Letter A, B, or C. If no Letter it is a B cyl. Ensure to check cylinder & order proper replacement. Cyl marked toward top, Letter is by itself.
20	3	Cylinder base gasket	5455	
30	12	Hexagon head nut	6233	
40	12	Washer	6234	
50	3	Piston set	5450	Contains Fig. 51-55
51	1	Piston	7210	Piston Marke w/ Letter corresponding to cylinder. A, B, or C. Marked on top of piston.
52	1	Piston ring	5452	
53	1	Piston ring	5451	
54	1	Piston pin	5972	
55	2	Circle clip	6301	
60	3	Cylinder head	6089	Specify Single Ignition
70	3	O-Ring	5892	
80	3	O-Ring	5893	
90	18	Cylinder screw	6408	
100	18	Washer	6407	
110	6	Bleed screw	6409	
120	6	Sealing ring	6410	

Hirth HT6 Air Box Assembly

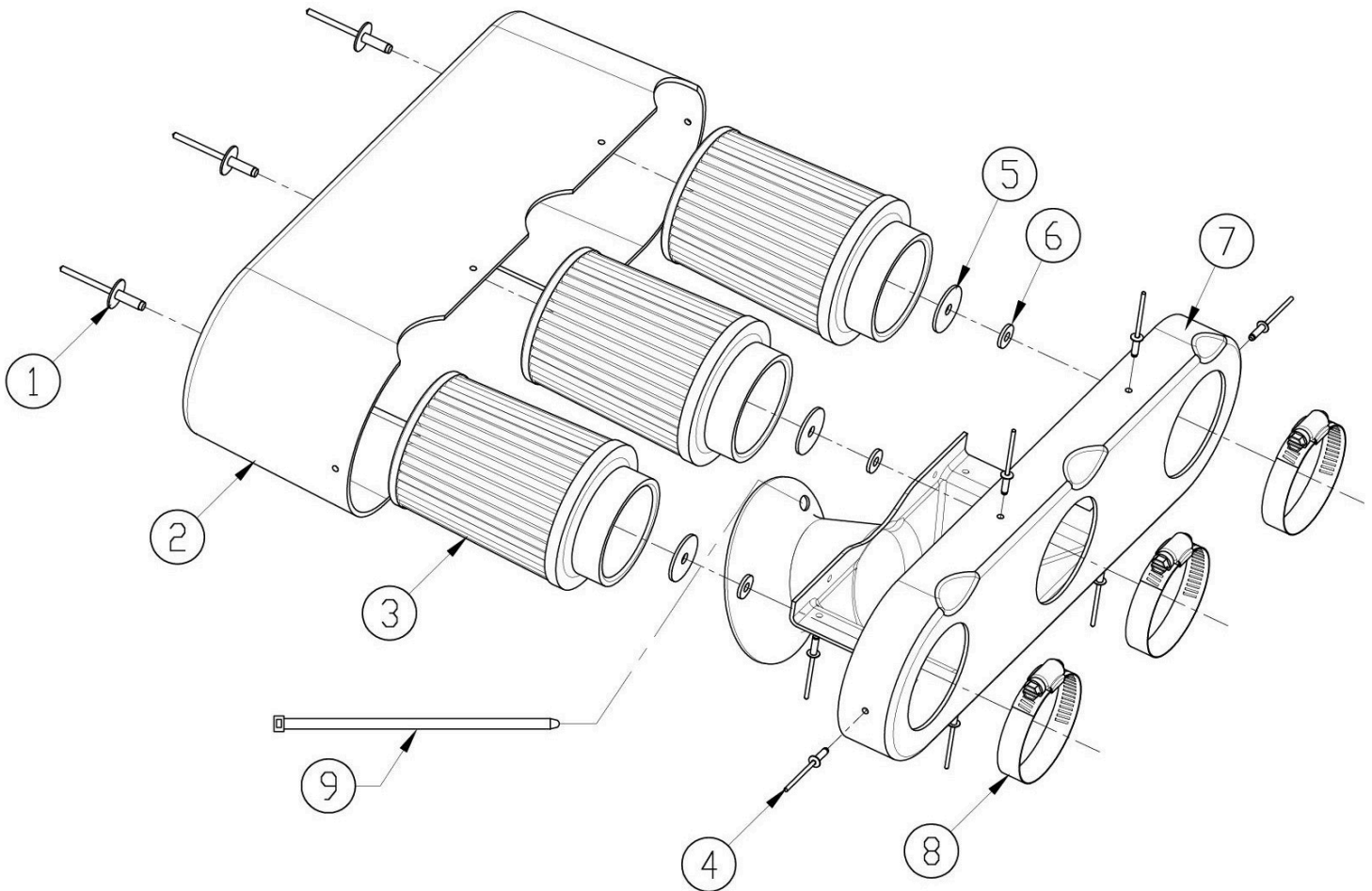


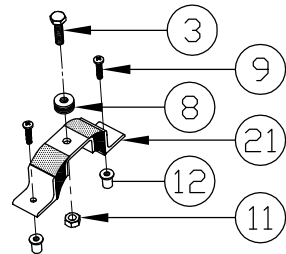
Fig. No.	Qty	Designation	Neoteric Part #	Remark
1	3	Rivet	2156	
2	1	Fiberglass Air Box	5652	
3	3	Air Filter	6622	Includes item 4
4	10	Rivet	2058	
5	3	Large Washer	2516	
6	3	Small Washer	2352	
7	1	Air Collector	6913	
8	3	Hose Clamp	2201	
9	3	Wire Tie	2371	
-	-	Polyurethane Sealant	2378	Not Shown
-	-	Sealed Air Box Assembly	6703	Includes item 1 - 9 as shown above *Entered Service in Late 2010 - Current
-	-	Unsealed Air Box (Old Style)	5653	Includes item 1, 2, 3, 4, 6, 7 *Used on Craft Produce Before Late 2010

Hirth 100HP Exhaust Header Parts

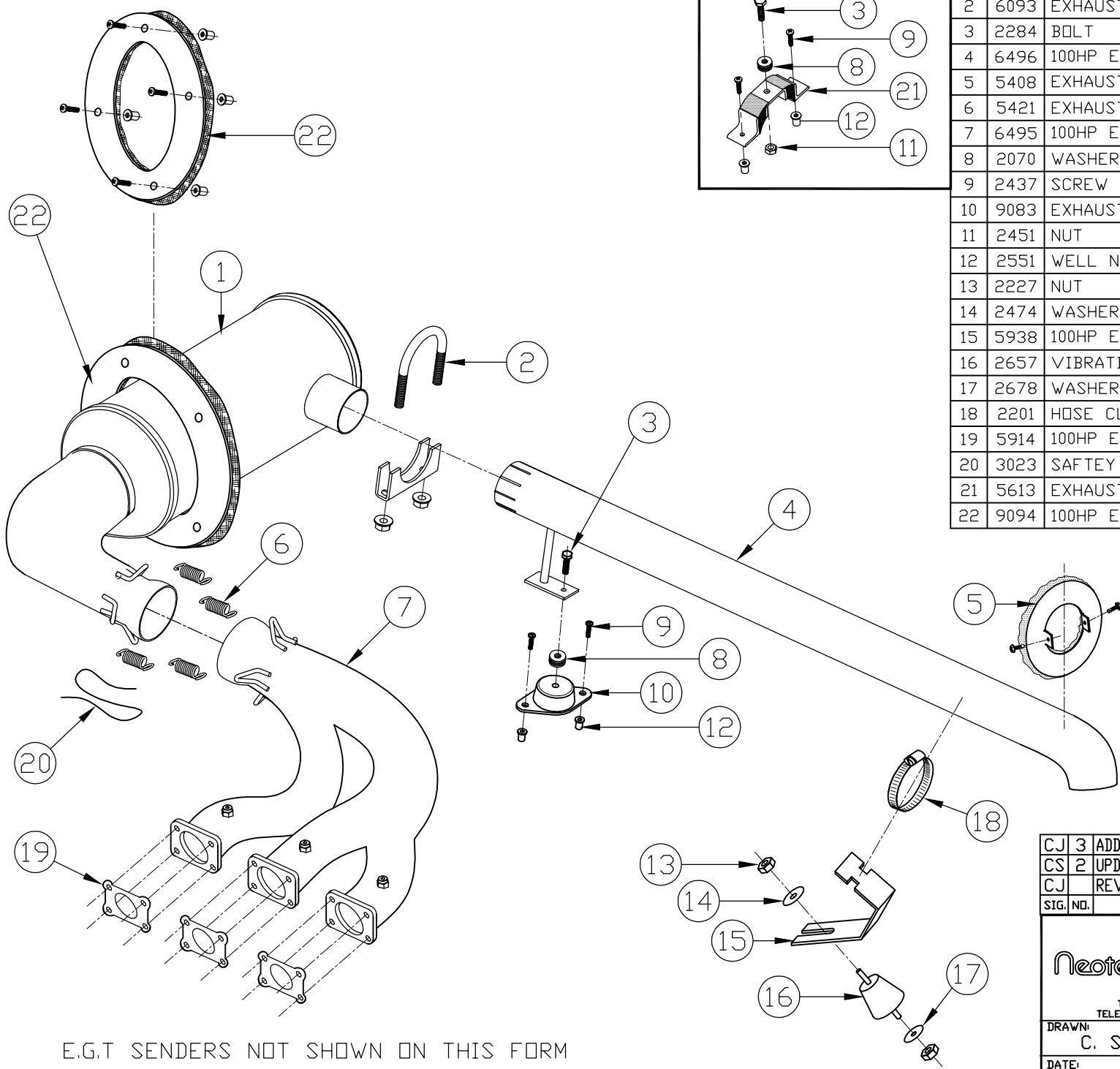


Fig. No.	Qty.	Designation	Neoteric Part No.	Remark note
10	1	Outlet Manifold	5601	
20	3	Outlet gasket	5914	
30	12	Cylinder Screw	6932	
40	4	Exhaust Spring	5421	


OLD STYLE EXHAUST MOUNT
(DISCONTINUED Q3 2014)



BILL OF MATERIAL		
REF.	PART #	DESCRIPTION
1	6373	100HP EXHAUST, EXPANSION CHAMBER
2	6093	EXHAUST CLAMP
3	2284	BOLT
4	6496	100HP EXHAUST, TAILPIPE
5	5408	EXHAUST, OUTLET FLANGE ASSY
6	5421	EXHAUST SPRING
7	6495	100HP EXHAUST, HEADER PIPE
8	2070	WASHER
9	2437	SCREW
10	9083	EXHAUST VIBRATION MOUNT (NEW STYLE)
11	2451	NUT
12	2551	WELL NUT
13	2227	NUT
14	2474	WASHER
15	5938	100HP EXHAUST, REAR SUPPORT
16	2657	VIBRATION MOUNT
17	2678	WASHER
18	2201	HOSE CLAMP
19	5914	100HP EXHAUST, HEADER GASKET
20	3023	SAFETY WIRE
21	5613	EXHAUST VIBRATION MOUNT (OLD STYLE)
22	9094	100HP EXTERNAL EXHAUST FLANGE ASSY



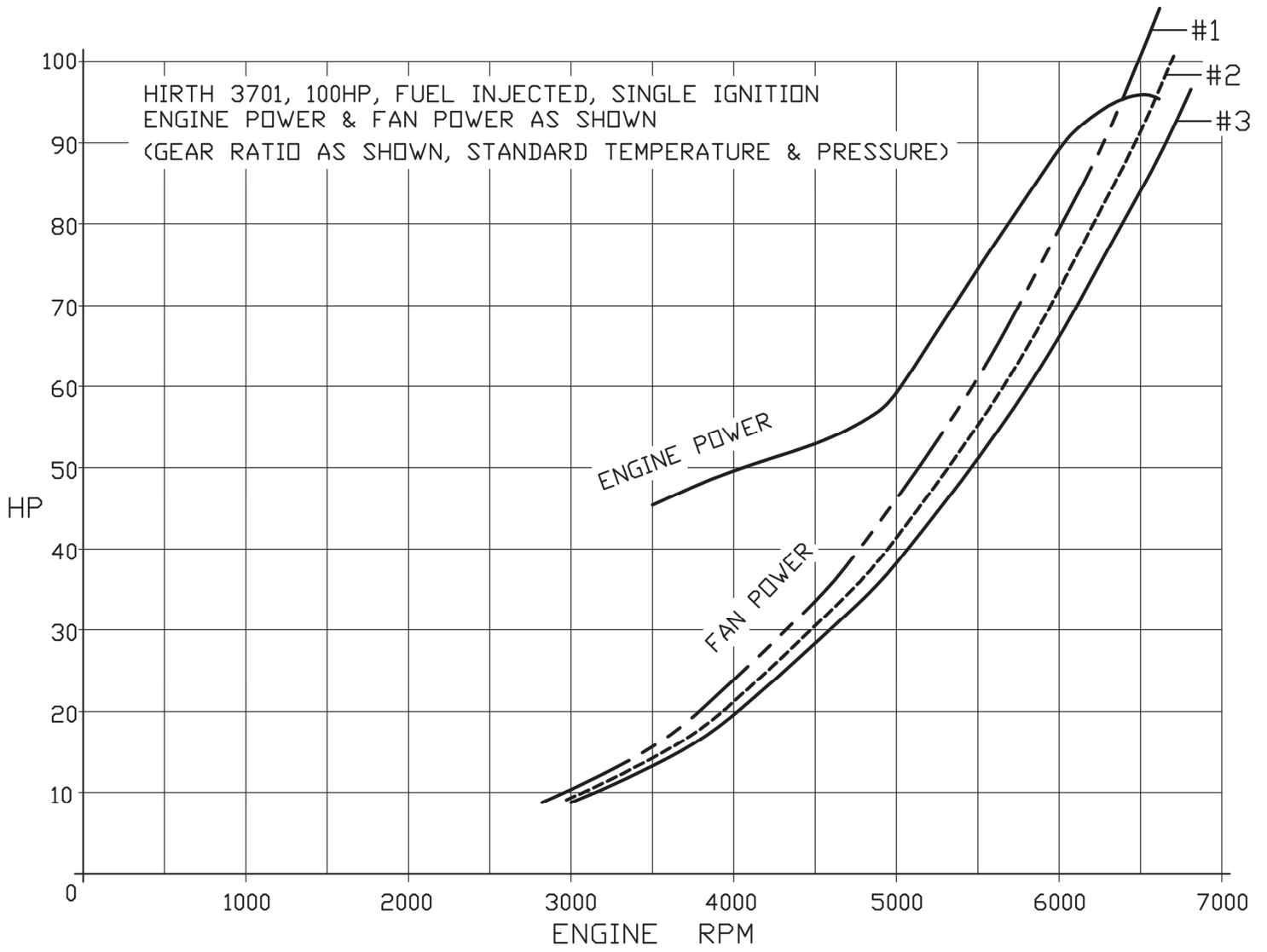
CJ	3	ADDED NEW STYLE EXHAUST FLANGE	20 JAN, 2015
CS	2	UPDATE TO STD II, ADD NEW MOUNT	11 NOV, 2013
CJ		REVISED DESCRIPTIONS	18 JAN, 2013
SIG. NO.		REVISION	DATE


Neoteric Hovercraft Inc.

1649 TIPPECANOE STREET
 TERRE HAUTE, INDIANA, U.S.A. 47807-2394
 TELEPHONE: (812) 234-1120 FAX: (812) 234-3217

DRAWN: C. STEIMEL	NAME: 100HP EXHAUST
DATE: 06 JUL, 2009	NUMBER: 17714
	REV. 3

E.G.T SENDERS NOT SHOWN ON THIS FORM



#1 FAN POWER: 28"/12-12/5Z/45°; Ratio 34/63
 #2 FAN POWER 28"/12-12/5Z/6x45-6x50° (6X 45° & 6X 50° BLADES); Ratio 32/63
 #3 FAN POWER: 28"/12-12/5Z/45°; Ratio 32/63

