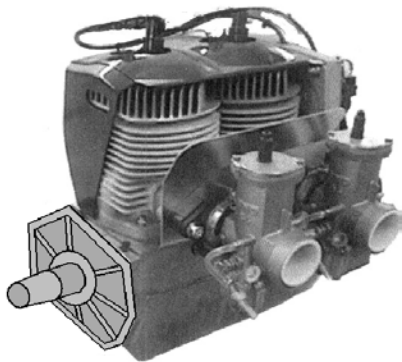




## HIRTH 3203 Carbureted - 65 HP



HIRTH's most popular engine. The 3203 produces more horsepower and torque per pound than any other engine in its power class. Hirth 3203 is the forerunner in power plants for the heaviest ultralight trainers, gyrocopters and light experimentals today.

3203 incorporates Al-Nikasil coated cylinders for superior performance and reliability. Al-Nikasil in simple terms is a nickel based material, applied in a paste form, when superheated it becomes part of the cylinder itself. Al-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. 3203 crankshaft is 4130 chromemolly steel. Heads, cylinders, rings, block casting, connecting rods and associated components are all of the highest grade alloys available today.

### 2706 - 65Hp engine shown with fan cooling

#### Technical Data:

Model:	3203 2 cycle, two cylinder in line fan cooled	Carburetion:	Dual 38mm slide type or optional fuel injection
Bore:	2.99" [76 mm]	Fuel Pump:	Auxiliary external pneumatic
Stroke:	2.72" [69 mm]	Lubrication:	Premix - 40:1 ratio or optional oil injection
Piston Diameter:	2.986" [75.84mm]	Rotation:	Counter clockwise, viewed from output end
Cylinder Diameter:	2.991" [75.97mm]	Ring Gap:	0.009" [0.23mm]
Displacement:	625 cc	Starter:	12 VDC electric, recoil or both/250 watt charging.
Compression:	9.5 : 1	Cooling:	Optional - Axial fan or free air cooled by prop.
HP Output:	65hp [48.5 kW] @ 6300 rpm	Ignition:	Single CDI (Capacitive discharge Ignition)
Torque:	56ft. lbs. [76 Nm] @ 5700 rpm	Weight:	82 lbs. fan cooled including Elec. Start and exhaust
TBO	1000 Hrs. Rated at 75% power		

\*Optional Plugs: NGK BR8HS  
Champion RL86C or #830

Engine	3203 - 65 HP FC
Ign. Timing @ 2000 Carbureted	16° BTC
Ign. Timing @ 2000 Fuel Injected	18° BTC
Spark Plug Heat VI	280
Spark Plug Gap	0.020-0.024
No. of Carburetors	Two
Carburetor ID #	Dellorto PHBE 34 BD 8
Main Jet	160 : 155 & 158 Available
Idle Jet	40
Mixture Adjustment Screw	3/4 Turn Out
Jet Needle	K 35
Needle Jet	AB 268
Needle Position	1
Cold Start/Choke Jet	90
Do not exceed RPM	6600
Peak HP RPM	6300
HP @ Peak RPM	65
Peak Torque RPM	6000
Peak Torque Ft. Lb.	55
Maximum CHT	535° F
Maximum EGT @ full power	1256°F
Maximum EGT @ cruise RPM	1330°F
Spark Plug Denso	W24 FSR - U10*



# 65HP Cylinder Single Ignition

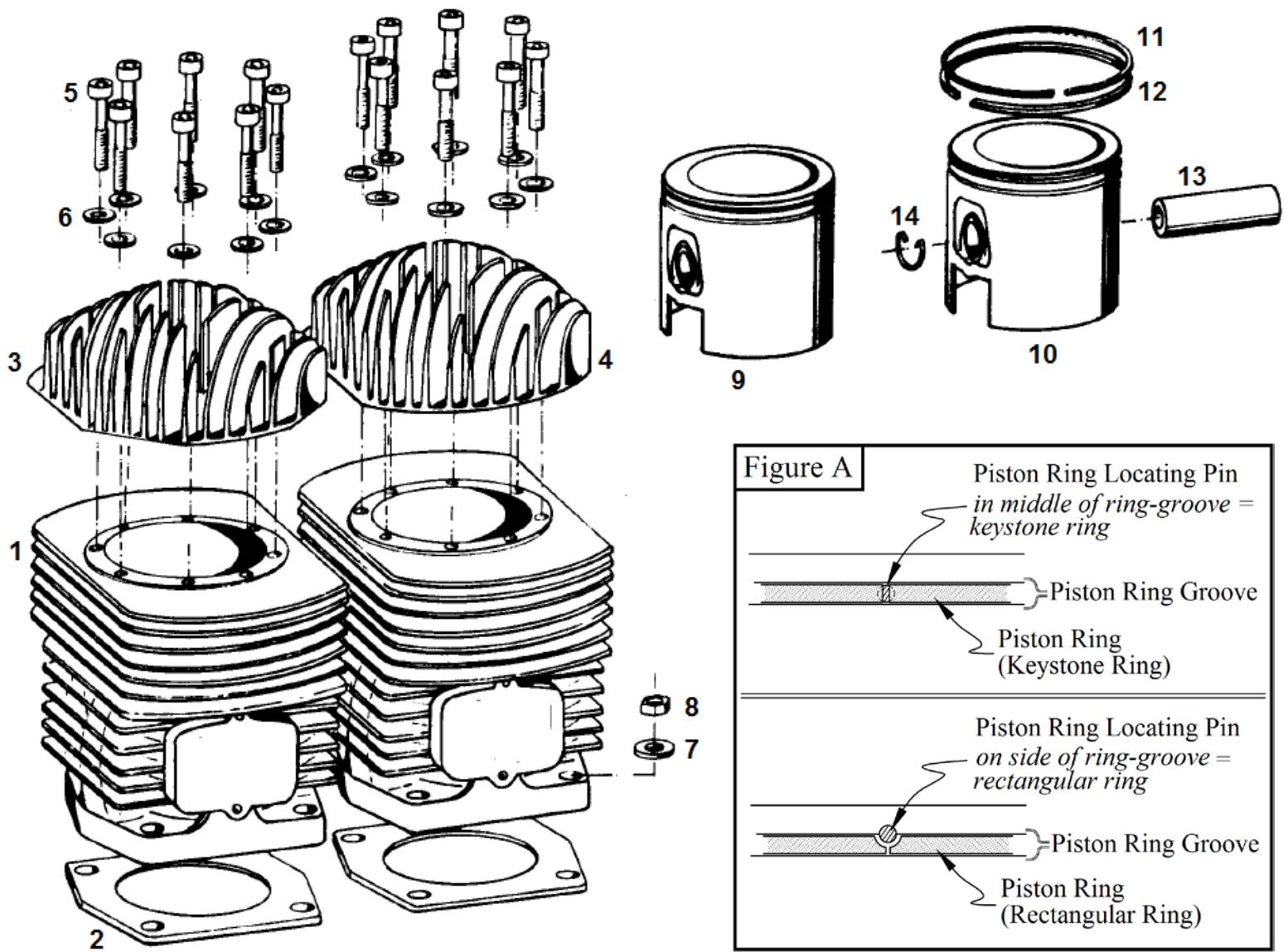


Fig. No.	Qty.	Description	Neoteric Part #	Remark / Note
1	2	Cylinder	6099	
2	2	Cylinder base gasket	5455	See Form 17368 for Gasket set
3	1	Rear Cylinder head	5457	
4	1	Front Cylinder head	5458	
5	16	Cylinder screw	6911	Torque = 9.6 - 11 Nm (7.1 - 8.1 ft-lb)
6	16	Washer	5994	
7	8	Washer	6234	
8	8	Hexagon head nut	6233	Torque = 23 - 26 Nm (17 - 19.2 ft-lb)
9	2	Piston Set	5450	Includes 10 - 14
10	-	Piston	7210	
11	-	Keystone Piston-Ring	5452	* Examine locating pin position in both upper & lower Ring-Grooves on piston to determine Ring type, as shown in <b>Figure "A"</b>
12	-	Rectangular Piston-Ring	5451	
13		Wrist Pin	5972	
14		Retaining ring (circlip)	6301	

**Spare part list - 65 HP Single Ignition  
Crankcase 3203**

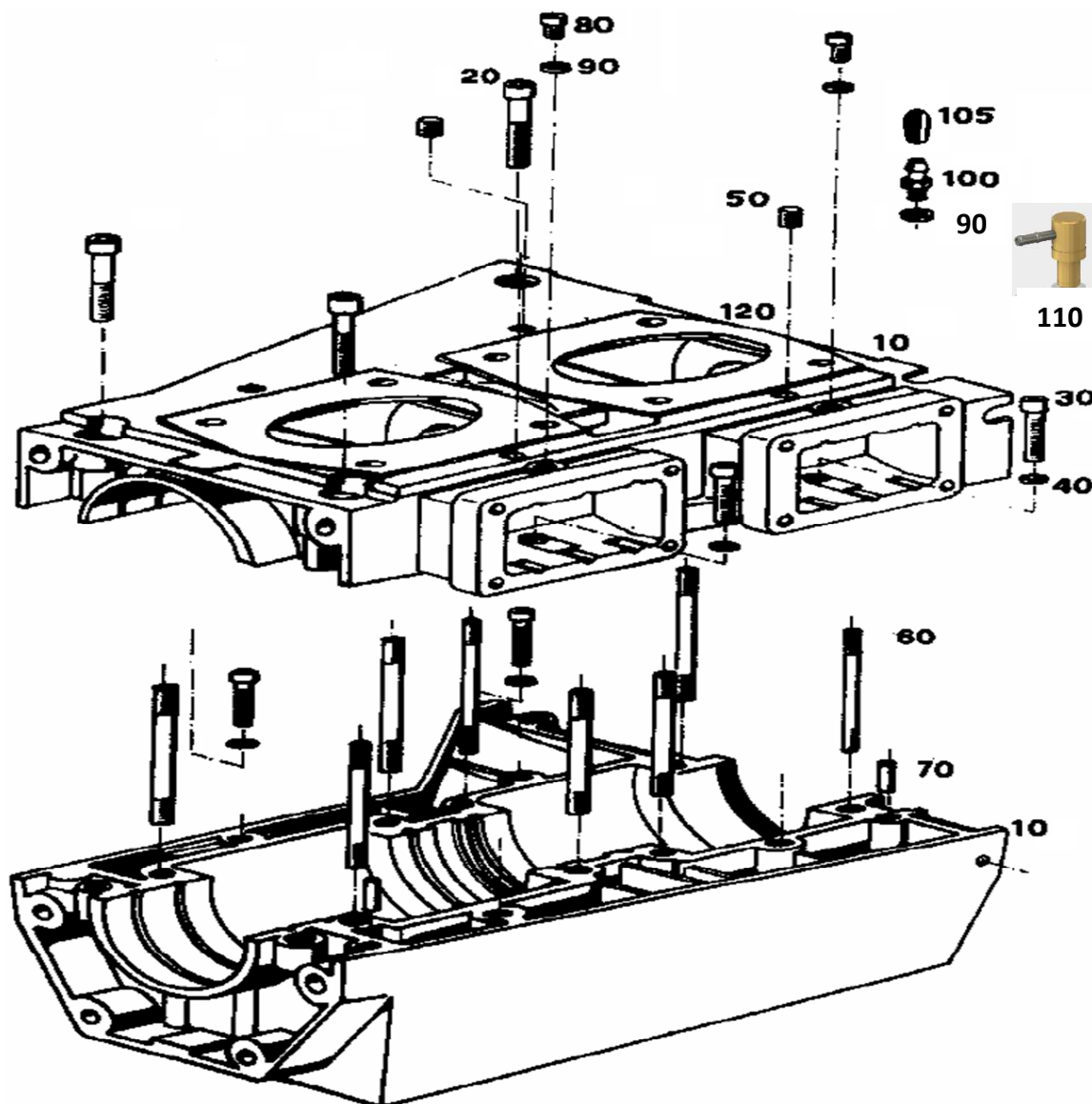


Fig. No.	Qty.	Description	Neoteric Part #	Remark / Notes
10	1	Crankcase, complete	<b>7164</b>	Included Figures 60 - 70
20	3	Cylinder screw	<b>7937</b>	Torque = 23 - 25 Nm [17 - 18.4 ft-lb]
30	4	Cylinder screw	<b>2289</b>	Torque = 9 - 11 Nm [6.6 - 8.1 ft-lb]
40	4	Washer	<b>6916</b>	
50	4	Threaded Pin Grub Screw	<b>9003</b>	Loctite 243
60	8	Stud screw	<b>7163</b>	Loctite 243
70	2	Plug tip	<b>7936</b>	Loctite 586
80	2	Cylinder screw	<b>9004</b>	Only 1 Required for Carbureted engines
90	2	Sealing ring, AL	<b>5629</b>	
100	1	Pulse line / Crank Case vac. nipple	<b>5630</b>	Carburetor engines only.
105	1	Dust Cover / Boot	<b>7208</b>	
110		Oil injection nipple	<b>5490</b>	Oil inj. Engines with fuel inj.
120		Cylinder Base Gasket	<b>5455</b>	See form 17749 for gasket set
-		Rubber Gasket Sealant	<b>7842</b>	Use as crankcase gasket

## Crankshaft 3203

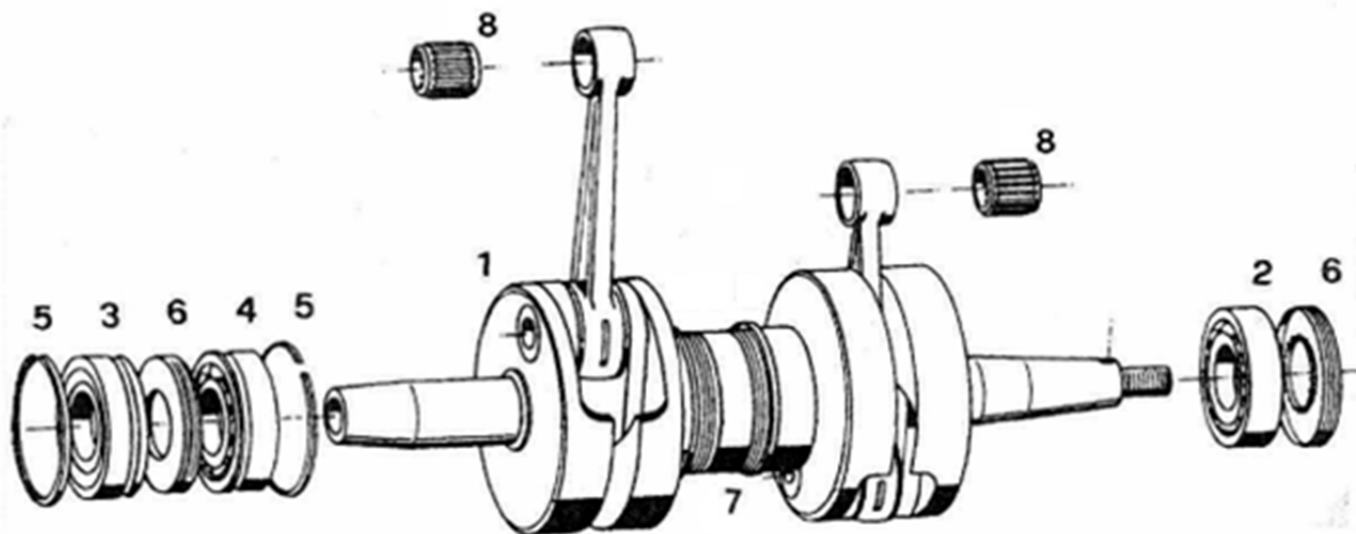


Fig. No.	Qty.	Description	Neoteric Part #	Remark / Notes
1	1	Crankshaft, complete	<b>5449</b>	Includes items 2 - 7
2	1	Deep groove ball bearing	<b>5460</b>	
3	1	Deep groove ball bearing	<b>5461</b>	
4	1	Deep groove ball bearing	<b>5462</b>	
5	2	Circlip	<b>7912</b>	
6	2	Shaft sealing ring	<b>5453</b>	
7	1	Space ring	<b>7913</b>	
8	2	Needle Bearing, Blue dot (#1)	<b>7909</b>	<p>* Connecting Rods are Color-Coded with a Paint Dot on the Piston end.</p> <p>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)</p> <p>Blue (#1) is the smallest and Green (#5) is the largest. Connecting rods with a Red (#3) dot are most common.</p> <p>If the paint dot is missing and no number code can be found, all bearings must be tried for the best fit.</p>
		Needle Bearing, Yellow dot (#2)	<b>6082</b>	
		Needle Bearing, Red dot (#3)	<b>6083</b>	
		Needle Bearing, White dot (#4)	<b>5464</b>	
		Needle Bearing, Green dot (#5)	<b>7910</b>	

**65HP Exhaust Header Pipe  
(Y-Pipe)**

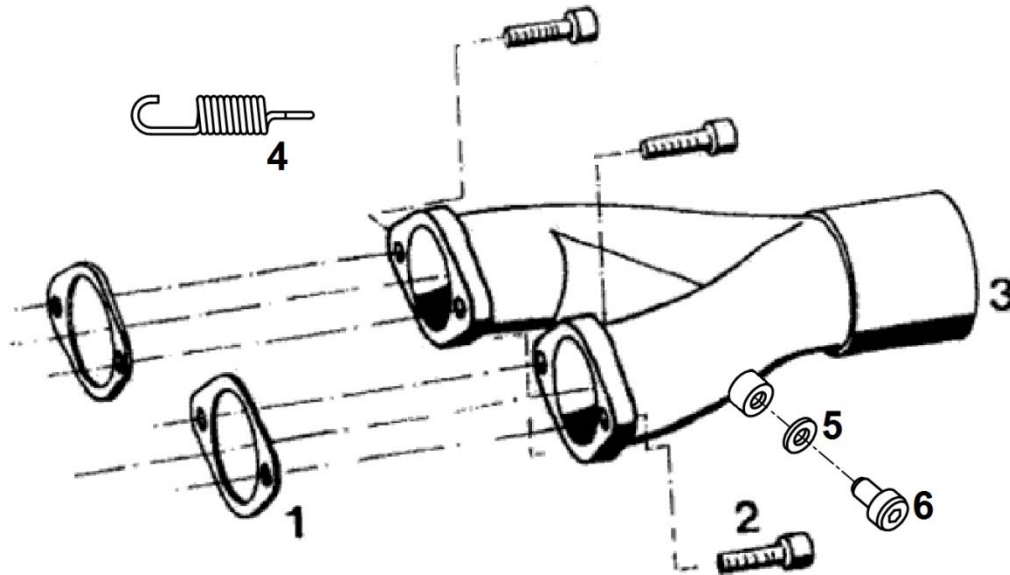
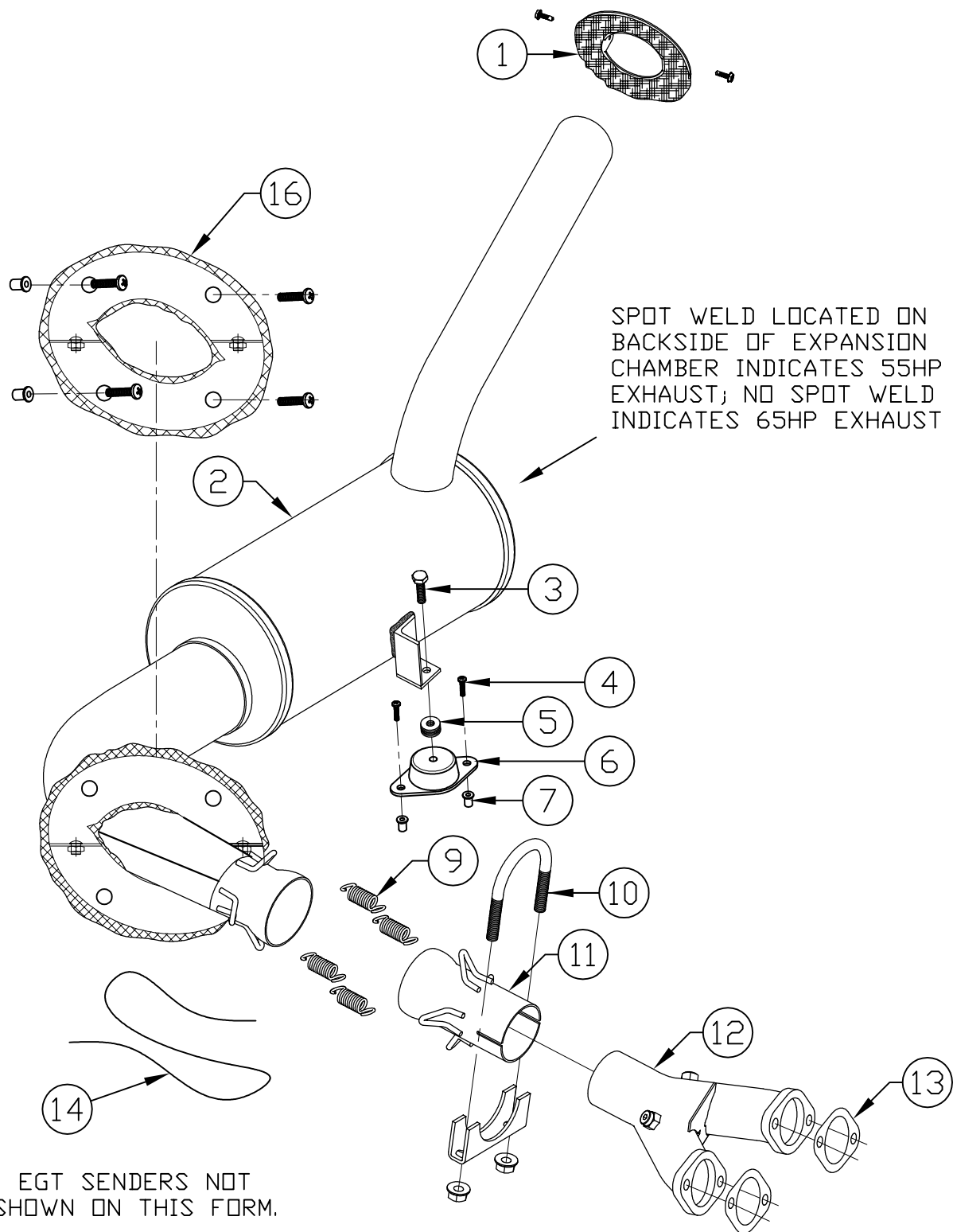
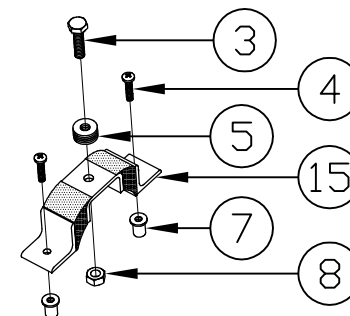


Fig. No.	Qty.	Designation	Neoteric Part #	Remark / Notes
1	2	Exhaust gasket	<b>5245</b>	
2	4	Cylinder screw	<b>6932</b>	Torque = 23 - 28 Nm (17 - 20.1 ft-lb)
3	1	Exhaust manifold	<b>5548</b>	Prepared for temperature meas.
4	4	Exhaust Spring	<b>5421</b>	
5	2	Copper Washer	<b>7077</b>	
6	2	M8x1x10 SHCS	<b>6934</b>	EGT Plugs; used when no EGT is installed



BILL OF MATERIAL		
REF.	PART #	DESCRIPTION
1	5408	EXHAUST, OUTLET FLANGE ASSY
2	5410	65HP EXHAUST
2	5479	55HP EXHAUST
3	2284	BOLT
4	2437	SCREW
5	2070	WASHER
6	9083	EXHAUST VIBRATION MOUNT
7	2551	WELL NUT
8	2451	NUT
9	5421	EXHAUST SPRING
10	5862	EXHAUST CLAMP
11	5546	55/65HP EXHAUST, STRAIGHT CONNECTOR
12	5548	65HP EXHAUST, Y-PIPE
12	5547	55HP EXHAUST, Y-PIPE
13	5245	55/65HP EXHAUST, HEADER GASKET
14	3023	SAFETY WIRE
15	5613	EXHAUST VIBRATION MOUNT (OLD STYLE)
16	9133	55/65HP BOLT ON EXTERNAL EXHAUST FLANGE ASSY

OLD STYLE EXHAUST MOUNT  
(DISCONTINUED Q3 2014)



CJ	4	ADDED NEW EXHAUST FLANGE ASSY	3 APR, 2015
CS	3	UPDATE TO NEW MOUNT	11 NOV, 2014
CS	2	UPDATE TO STD II	12 MAR, 2013
CP		REV 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:	J. BARGO	NAME:	55/65 HP HIRTH EXHAUST SYSTEM
DATE:	22 JUL, 2009	NUMBER:	17713
		REV.	4



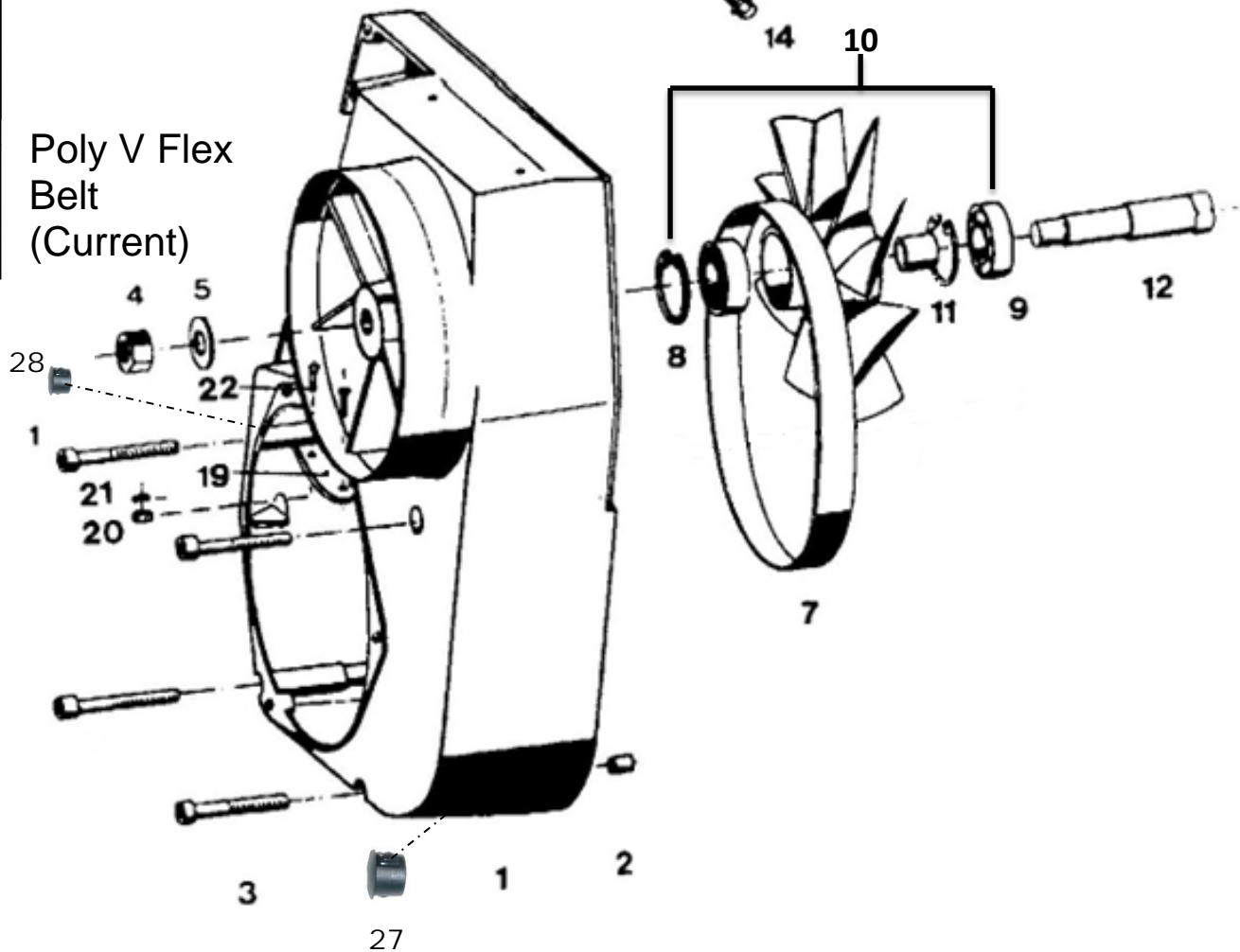
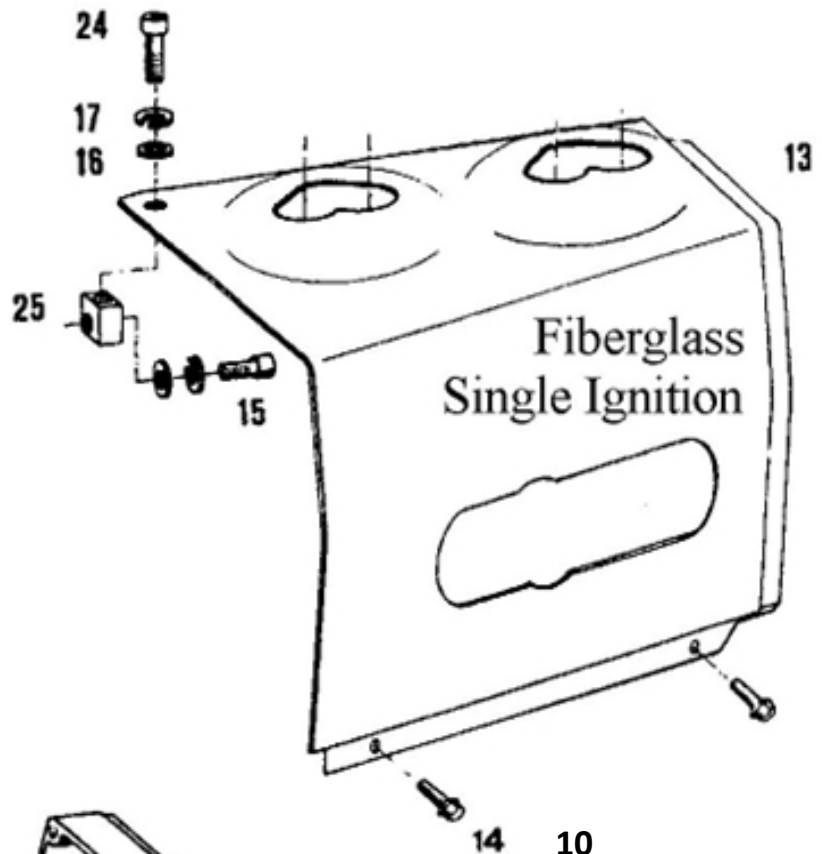
# Fan cooling system 3203

\* Flat Belt  
Cooling Fan  
(Old Style)

\* Flat Belt  
(Old Style)

Poly V Belt  
Cooling Fan  
(Current)

Poly V Flex  
Belt  
(Current)





### Fan cooling system 3203

<b>Fig. No.</b>	<b>Qty.</b>	<b>Description</b>	<b>Neoteric Part No</b>	<b>Remark/Note</b>
1	1	Fan housing, complete	<b>9020</b>	Includes Fig No. 4, 5, 6, 10*, 12, 19, 20, 21
2	3	Alignment sleeve	<b>7939</b>	
3	4	Cylinder screw	<b>3258</b>	Torque = 6-8 ft lb. (9.6-11 Nm)
4	1	Hexagon head nut	<b>6855</b>	Torque = 20 ft lb. (27-30 Nm)
5	1	Washer	<b>6856</b>	
7*	1	Flat belt	<b>3407</b>	*Used up to model year 2008 (Engine #901105 & Lower)
7	1	Poly V Flex belt	<b>6390</b>	Currently used, from 2008 onward (Engine #901106 & Higher)
8	2	Locking ring	<b>7940</b>	
9	2	Deep groove ball bearing	<b>6887</b>	
10*	1	Fan wheel Assy, Flat belt	<b>3408</b> <b>(5879 – modified)</b>	Incl. Pos. 8, 9, 11 *Used up to model year 2008 (Engine #901105 & Lower)
10	1	Fan wheel Assy, Poly V	<b>6391</b>	Incl. Pos. 8, 9, 11 Currently used, from 2008 onward (Engine #901106 & Higher)
11	1	Bushing	<b>7941</b>	
12	1	Eccentric shaft	<b>6857</b>	
13-B	1	Air guide cowl - SI	<b>5324</b>	Single ignition
14	2	Thread screw	<b>5997</b>	
15	1	Cylinder screw	<b>6901</b>	Torque = 6-8 ft lb. (9.6-11 Nm)
16	2	Washer	<b>6916</b>	
17	2	Spring ring	<b>5999</b>	
19	1	Metal plate	<b>6183</b>	
20	2	Hexagon head nut	<b>2694</b>	
21	2	Washer	<b>7942</b>	
22	2	Screw	<b>2693</b>	
23-A	2	Rubber grommet		For dual ignition engines
23-B	2	Rubber grommet	<b>9021</b>	For single ignition engines
24	1	Cylinder screw	<b>5998</b>	Torque = 6-8 ft lb. (9.6-11 Nm)
25	1	Air guide mounting block	<b>6928</b>	
26	1	Sheet	<b>5981</b>	Not on Sketch
27	1	Hole Plug	<b>2449</b>	Covers Hole In Housing
28	1	Small Hole Plug	<b>2977</b>	Covers Hole In Housing

**65HP Starting Device  
(3203)**

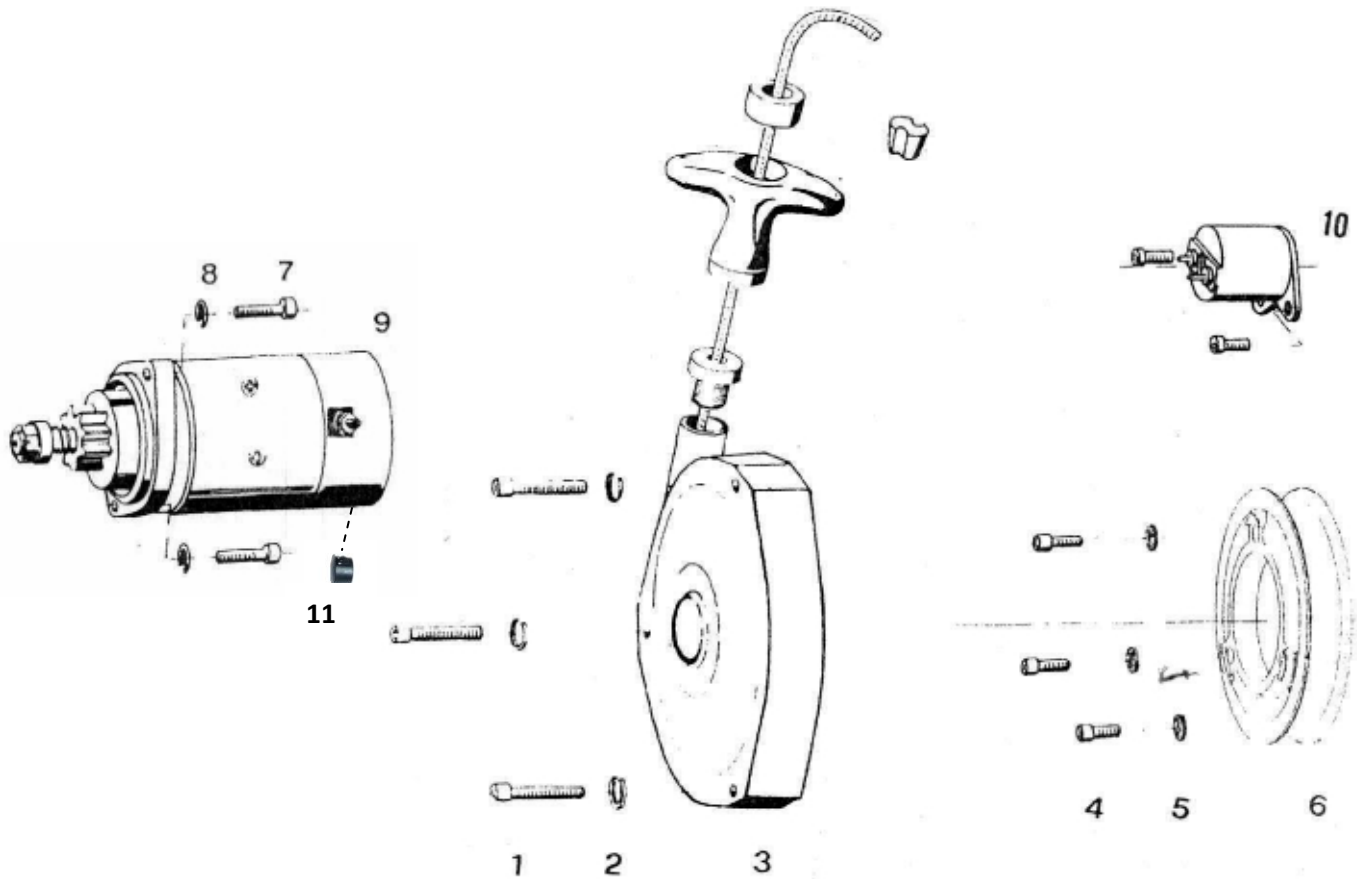


Fig. No.	Qty.	Description	Neoteric Part #	Remark/Note
1	3	Cylinder screw	<b>6911</b>	Torque = 9.6 - 11 Nm (7.1 - 8.1 ft-lb)
2	3	Spring ring	<b>6940</b>	
3	1	Starter, mounted	<b>5267</b>	
4	3	Cylinder screw	<b>7944</b>	Torque = 23 - 28 Nm (17 - 20.7 ft-lb)
5	3	Tab washer	<b>5995</b>	
6*		Driving dog with starter, Flat	<b>6189</b>	*Used up to model year 2008 (Engine #901105 & Lower)
6	1	Driving dog with starter, Poly-V	<b>6389</b>	Currently used, from 2008 onward (Engine #901106 & Higher)
7	2	Cylinder screw	<b>2348</b>	Torque = 23 - 28 Nm (17 - 20.7 ft-lb)
8	2	Tab washer	<b>5995</b>	
9	1	Starter	<b>6982</b>	Old Starter 5545
-	1	Alternative Starter	<b>7563</b>	Replacement for Customers
10	1	Starter Solenoid	<b>5417</b>	
11	1	Starter Hole Plug	<b>9172</b>	Used to plug drain hole in starter

## 55/65HP Ignition System

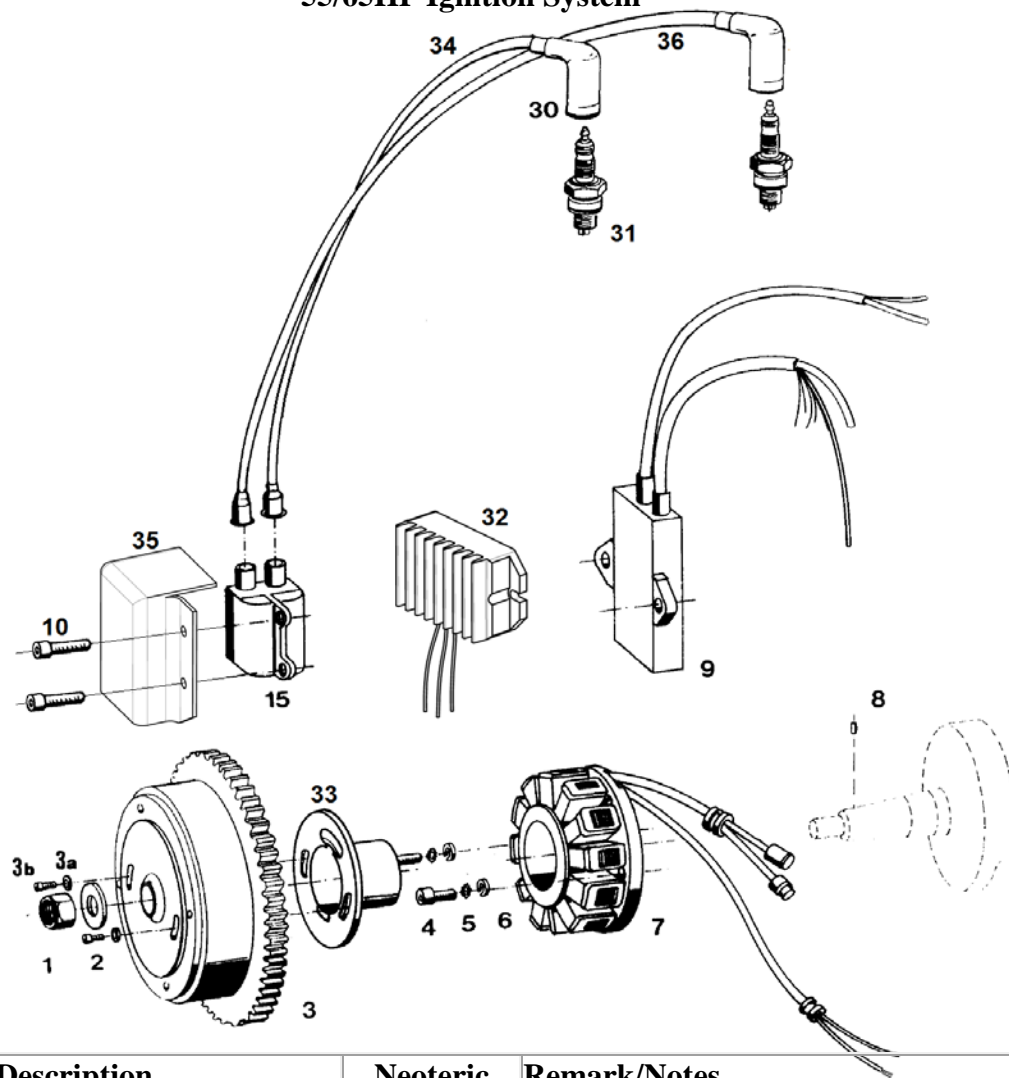


Fig. No.	Qty.	Description	Neoteric Part #	Remark/Notes
1	1	Hexagon head nut	<b>6939</b>	Torque = 140 - 150 Nm (103.3 - 110.6 ft-lb)
2	1	Washer	<b>7196</b>	
3	1	Flywheel with gear ring	<b>7984</b>	Includes fig. 3a, 3b, 33
3b	2	Low Profile S.H.C.S.	<b>9697</b>	
4	2	Cylinder screw	<b>7182</b>	
5	2	Washer	<b>5994</b>	
6	2	Washer	<b>6936</b>	Torque = 4 - 4.5 Nm (3 - 3.3 ft-lb)
7	1	Stator plate complete	<b>5591</b>	
8	1	Flywheel alignment pin	<b>7985</b>	
9	1	CDI - Box	<b>5664</b>	Mounted with silicone
10	2	Coil Mounting Screw	<b>2469</b>	
15	1	Ignition coil	<b>5682</b>	Includes fig. 15
30	2	Spark plug cap	<b>5827</b>	
31	1	Spark plug	<b>5668</b>	Do not mix spark plug types
32	1	Voltage Regulator	<b>5338</b>	
33	1	Magnet Support	<b>5724</b>	
34	1	Spark plug lead, short	<b>5666</b>	Wire only; does not include fig. 30
36	1	Spark plug lead, long	<b>5665</b>	Wire only; does not include fig. 30
-	-	Spark Plug lead set	<b>5661</b>	Includes fig. 30, 34, 36

# NOTES:

1) 1 HALL EFFECT SENSOR ON  
PLATE GENERATES TIMING PULSE.

2) ALWAYS USE SYSTEM 1.  
SYSTEM 2 IS JUST A BACK UP.

BLACK: GROUND.

BROWN: HALL EFFECT POWER 10VDC.

RED: HALL EFFECT SIGNAL.

GRAY AND BLUE: CDI POWER.

## DUAL SYSTEM

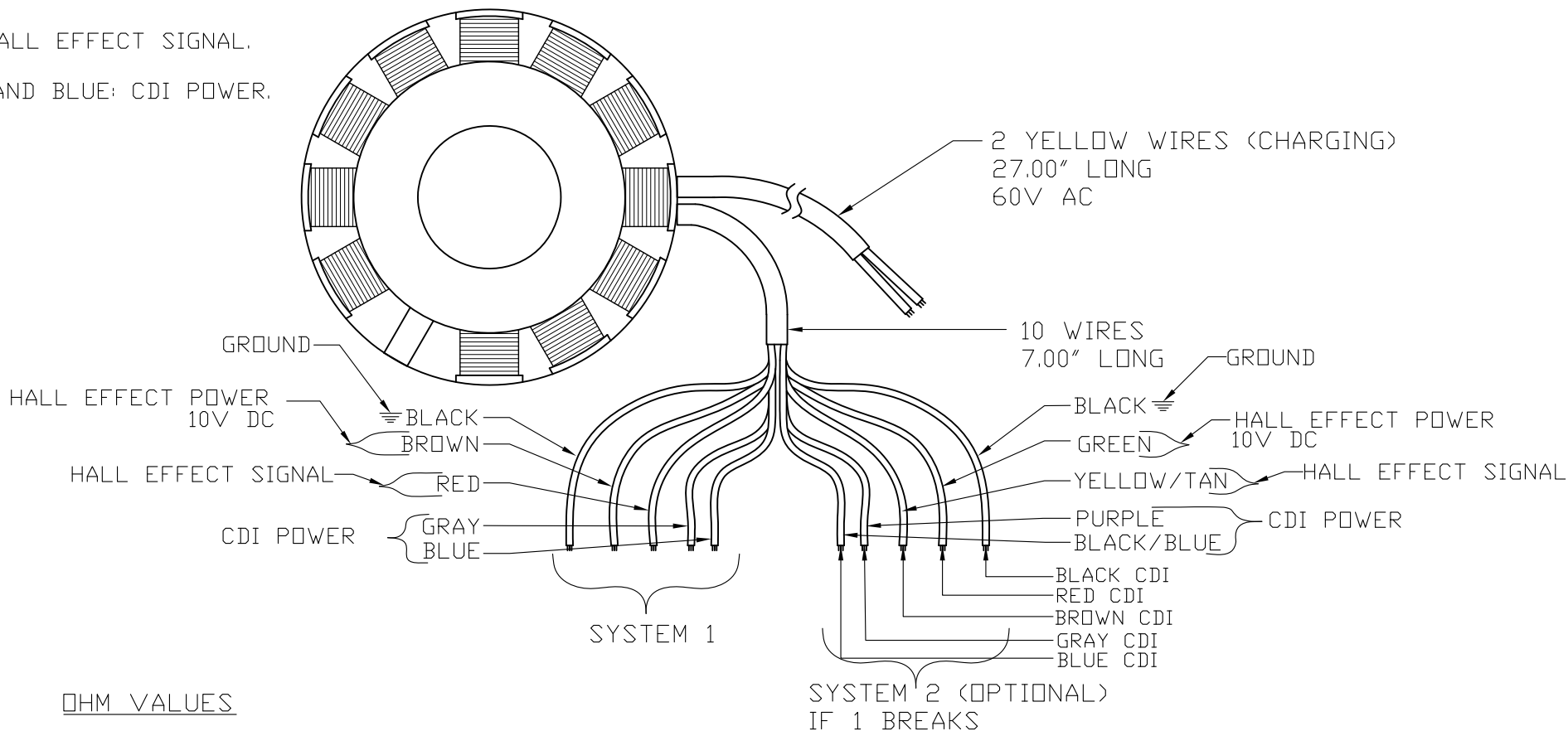
55/65HP MAGNETO

## 12 WIRES IN TOTAL

5 WIRES TO CDI.

5 WIRES REDUNDANT CDI (SYSTEM 2).

2 WIRE TO BATTERY CHARGE.



## OHM VALUES

YELLOW & YELLOW: 0.4 ohm

BLACK & BLACK: 0.3 ohm

BLUE & GREY: 9.5 ohm

BLACK TO PLATE: 0.7 ohm

BILL OF MATERIAL			
REF.	PART #	DESCRIPTION	QTY.
X	XXXX	XXXX XXXX XXXX XXXX	X

ALL DIMENSIONS IN in AND [mm]			
TOLERANCE UNLESS OTHERWISE SPECIFIED:			
FRACTIONAL $\pm 1/32"$ [0.8]			
X.XX $\pm 0.016"$ [0.40]			
X.XXX $\pm 0.005"$ [0.13]			
X.X° $\pm 0.10^\circ$			
USED ON:	CHECKED:	SIG. NO.	REVISION
SCALE:	WEIGHT:	DATE:	NUMBER:
PAGE:			
1 OF 2		14 APR, 2016	16644

**Neoteric Hovercraft Inc.**

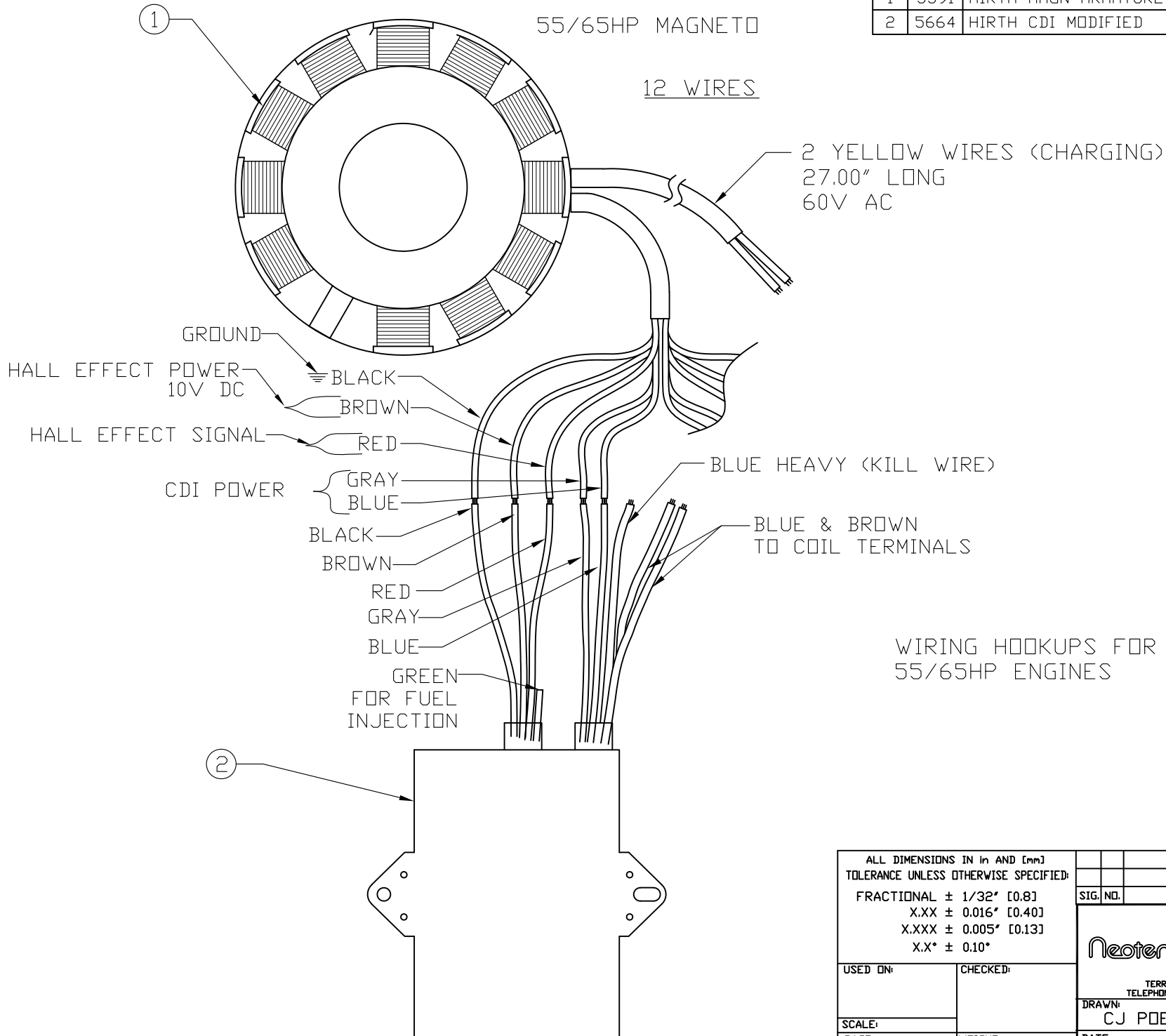
1649 TIPPECANOE STREET  
TERRE HAUTE, INDIANA, U.S.A. 47807-2394  
TELEPHONE (812) 234-1120 FAX (812) 234-3217

DRAWN: CJ POEHLEIN  
NAME: HIRTH 55/65HP MAGNETO ARMATURE PLATE  
REV. 2

# DUAL SYSTEM

55/65HP MAGNETO

12 WIRES



BILL OF MATERIAL			
REF.	PART #	DESCRIPTION	QTY.
1	5591	HIRTH MAGN ARMATURE PLATE & RESISTANCES	1
2	5664	HIRTH CDI MODIFIED	1

WIRING HOOKUPS FOR MAGNETO TO CDI  
55/65HP ENGINES


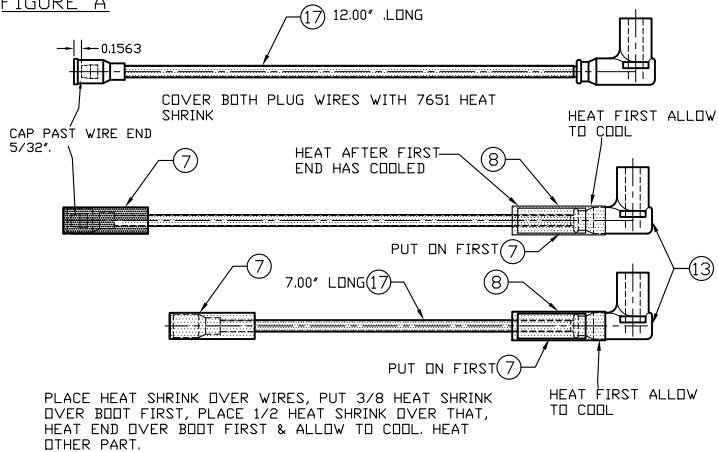
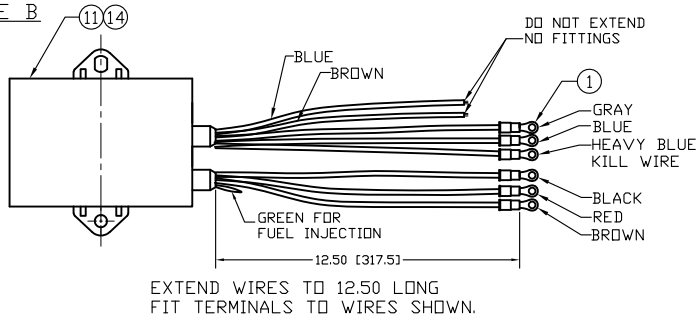
ALL DIMENSIONS IN IN AND [mm] TOLERANCE UNLESS OTHERWISE SPECIFIED: FRACTIONAL $\pm 1/32"$ [0.8] X.XX $\pm 0.016"$ [0.40] X.XXX $\pm 0.005"$ [0.13] X.X° $\pm 0.10^\circ$		SIG.	NO.	REVISION	DATE
USED ON:		CHECKED:		 <b>Neoteric Hovercraft Inc.</b> 1649 TIPPECANOE STREET TERRE HAUTE, INDIANA, U.S.A. 47807-2394 TELEPHONE (812) 234-1120 FAX (812) 234-3217	
SCALE:		DRAWN:		NAME:	
PAGE: 2 OF 2		CJ POEHLEIN		55/65HP HIRTH MAGNETO ARMATURE PLATE	
WEIGHT:		DATE:		NUMBER:	
		28 JUNE, 2016		16644 2	

FIGURE A



BILL OF MATERIAL				
REF.	PART #	DESCRIPTION	QTY.	DFT.
1	2209	TERM. FITTING	11	
2	2371	WIRE TIE	6	
3	2372	WIRE TIE	6	✓
4	2378	SEALANT/ADHESIVE, BLACK	20	
5	2520	DIELECTRIC GREASE	10	
6	2732	SOLDERING FLUX	2	
7	3191	HEAT SHRINK	8	
8	3192	HEAT SHRINK	4	
9	3305	PLASTIC LIQUID ELECTRIC COATING	10	✓
10	3431	SOLDER	1.5	
11	5334	HIRTH CDI UNIT 55/65HP	1	
12	5335	HIRTH COIL 55/65HP	1	
13	5661	SPARK PLUG WIRE ASSEMBLY PAIR	1	
14	5664	MODIFIED HIRTH CDI	1	✓
15	5682	MODIFIED HIRTH COIL	1	✓
16	7650	HEAT SHRINK W/ ADHESIVE, BLACK	10	
17	7651	HEAT SHRINK W/ ADHESIVE, BLACK	28.5	
18	9180	SALT WATER COIL/CDI PROTECTION BAG	1	
19	9181	COIL/CDI ASSEMBLY	1	

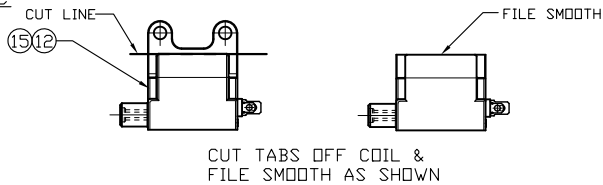
FIGURE B



## ORDER OF OPERATIONS

- 1) PUT HEAT SHRINK ON PLUG WIRES AS SHOWN IN FIGURE A.
- 2) EXTEND ALL WIRES AS SHOWN IN FIGURE B.
- 3) FIT TERMINAL FITTING ON WIRES AS SHOWN.  
\* DO NOT FIT TERM. TO BROWN OR BLUE WIRE
- 4) CUT TABS OFF COIL USING BANDSAW. FIGURE C.
- 5) BOND COIL TO CDI AS SHOWN IN FIGURE D.
- 6) ROUTE BROWN AND BLUE WIRE AND SOLDER AS SHOWN IN FIGURE D.
- 7) FIT PLUG WIRES TO COIL & TIE WITH WIRE TIES.
- 8) GOOD SOLDERED TERMINALS OF COIL AS SHOWN IN FIGURE E.
- 9) PLACE IN BAG #9180.

FIGURE C

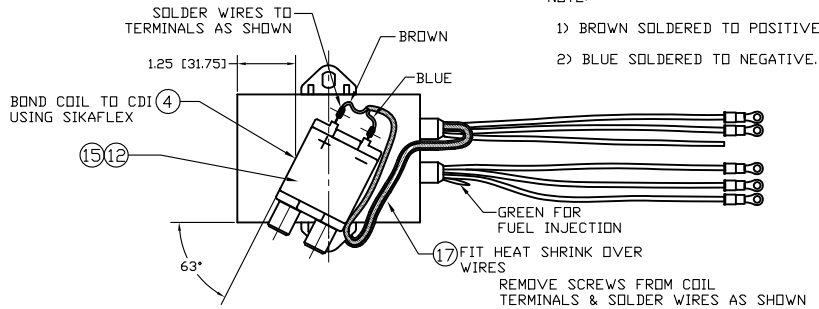


ALL DIMENSIONS IN IN AND [mm]  
TOLERANCE UNLESS OTHERWISE SPECIFIED

FRACTIONAL	± 1/32"	[0.8]
X.XX	± 0.016"	[0.40]
X.XXX	± 0.005"	[0.13]

USED IN 3720	CHECKED	1649 TIPPECANOE STREET TERRE HAUTE, INDIANA, U.S.A. 47607-1294 TELEPHONE: 824-1182 FAX: 824-3817	
SCALE:		DRAWN CJ POEHLER	NAME: HIRSH, S/565HP COL/COL. SALT WATER ASSEMBLY
PAGE: 1 OF 3	WEIGHT:	DATE: 14 APR, 2017	NUMBER: 164613 REV.

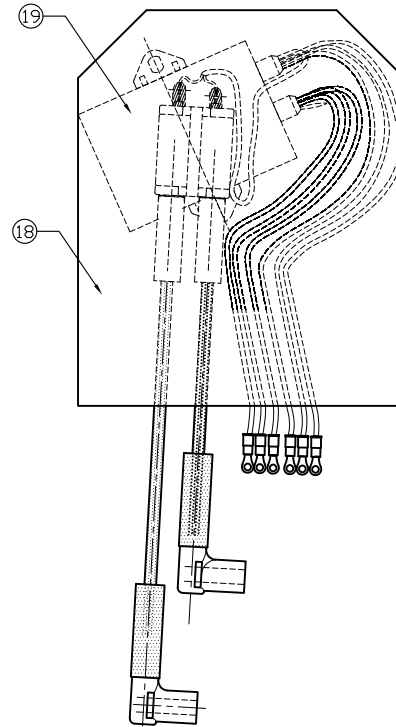
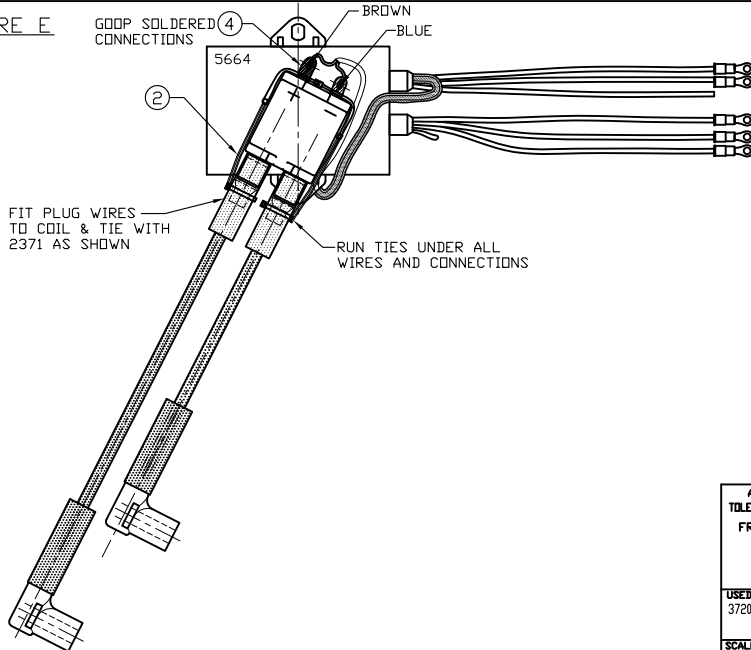
FIGURE D




NOTE:

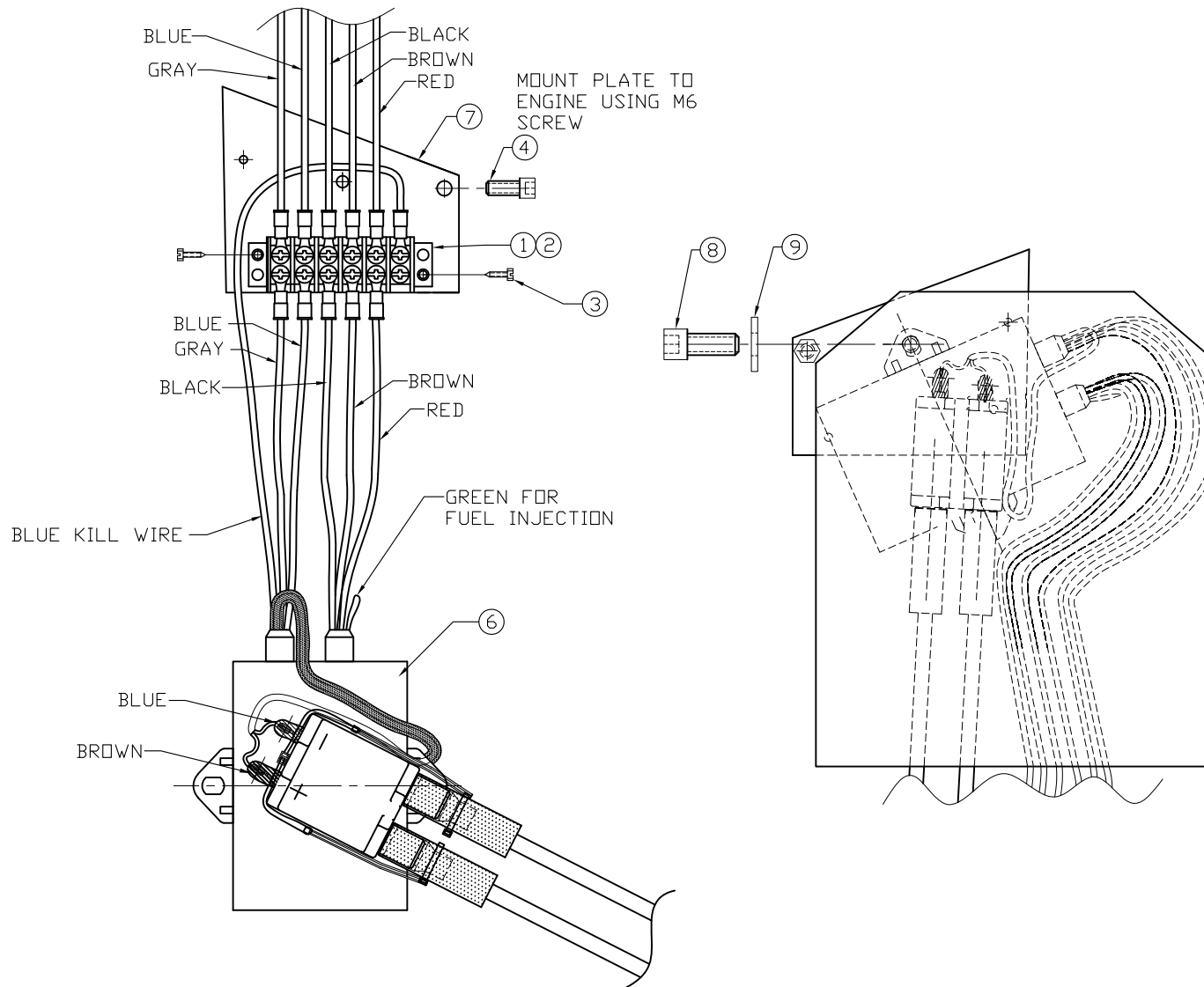
- 1) BROWN SOLDERED TO POSITIVE.
- 2) BLUE SOLDERED TO NEGATIVE.

FIGURE E



ALL DIMENSIONS IN IN AND (mm) TOLERANCE UNLESS OTHERWISE SPECIFIED		CJ-3 ADDED PAGE 3 TO SHOW HOOKUP	
FRACTIONAL ± 1/32" (0.81)		SIG. NO. REVISION DATE	
X.XX ± 0.016" (0.403)		 <b>Neotec Hovercraft Inc.</b>	
X.XXX ± 0.005" (0.131)			
X.X" ± 0.10"			
USED IN 3720	CHECKED	5649 TIPPECANOE STREET TERRACE, INDIANA 46784-2394 TELEPHONE (812) 834-1183 FAX (812) 834-3217	
SCALE:	WEIGHT:	DRAWN CJ POEHLIN	NAME: BIRTH: 5/5/58 CULCIT: IN WATER ASSEMBLY
PAGE: 2 OF 3		DATE: 14 APR, 2017	NUMBER: 16461 REV.

# WIRES FROM MAGNETO



BILL OF MATERIAL			
REF.	PART #	DESCRIPTION	QTY.
1	1365	TERMINAL BLOCK	1
2	2378	SEALANT/ADHESIVE, BLACK	6
3	2459	SCREW, SS	2
4	2144	HEX BOLT, SS	1
4	10442	S.H.C.S., SS, (CURRENT)	1
5	2372	WIRE TIE	2
6	9181	CDI/COIL ASSEMBLY	1
7	9182	CDI/COIL MOUNT PLATE SALT WATER MARINIZATION	1
8	2391	HEX BOLT, SS	1
8	6492	S.H.C.S., SS, (CURRENT)	1
9	2070	WASHER, SS	1

NOTE:

PART NUMBERS CALLED OUT ON PAGE 3  
LISTED ON PAGE 3 BILL OF MATERIALS ONLY

NOTES:

- 1) PUT 2209 FITTING ON BLACK WIRE FROM ENGINE HARNESS, INSTALL ACROSS FROM BLUE KILL WIRE
- 2) USE BOLT & WASHER TO MOUNT BAG TO BACKSIDE OF PLATE AFTER PLATE IS MOUNTED TO COVER.

ALL DIMENSIONS IN IN AND (mm) TOLERANCE UNLESS OTHERWISE SPECIFIED		SIG. NO.		REVISION		DATE	
USED ON: 3720		CHECKED:				1649 TIPPECANOE STREET TERRE HAUTE, INDIANA, U.S.A. 47607-2394 TELEPHONE (812) 834-1188 FAX (812) 834-3217	
SCALE:		DRAWN: CJ POEHLEIN		NAME: COIL SALTWATER INSTALLATION		REV.:	
PAGE: 3 OF 3		WEIGHT:		DATE: 14 APR, 2017		NUMBER: 16461 3	



## 2-Cylinder Fuel Injection Electrical System

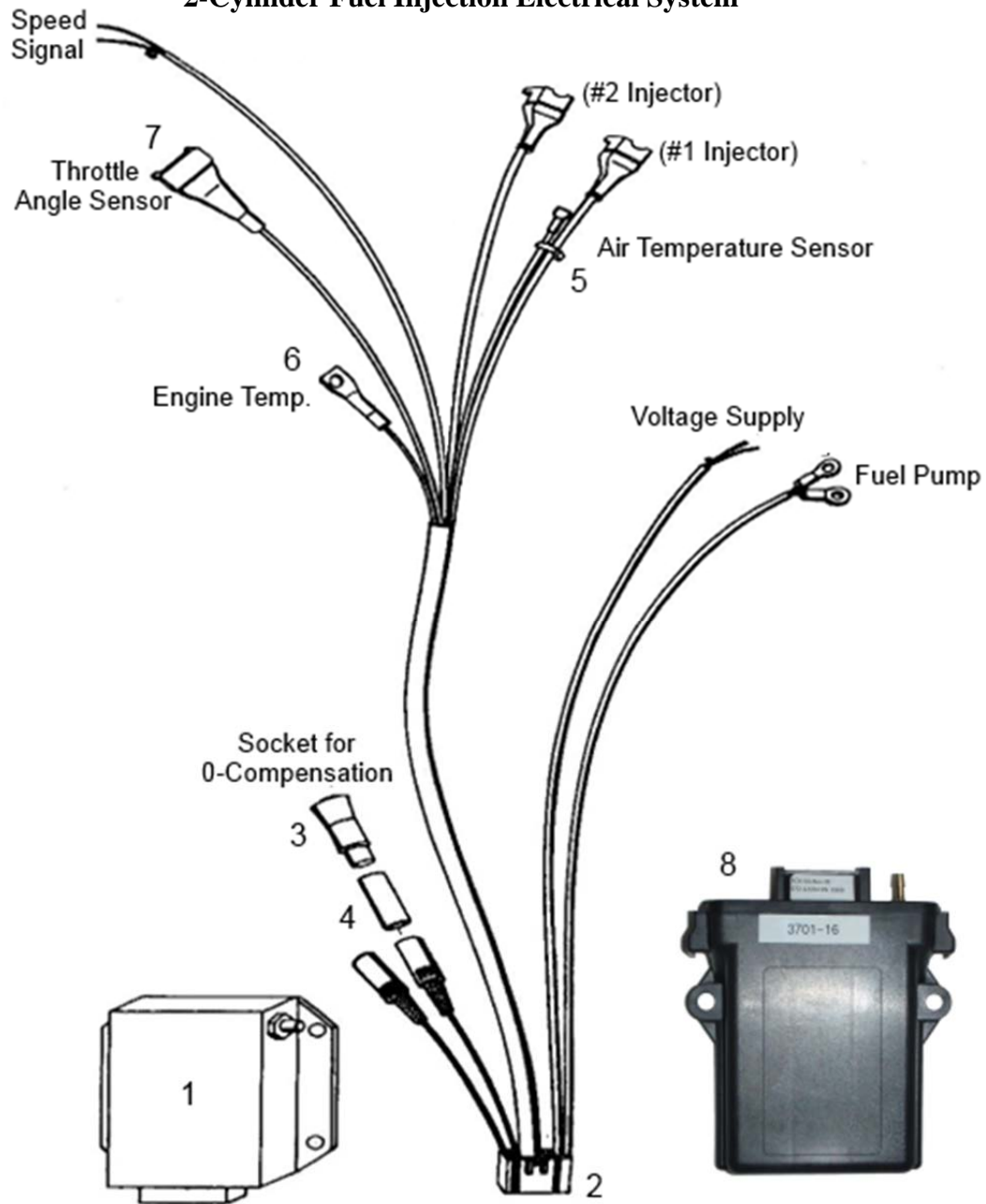


Fig.No.	Qty	Description	Neoteric Part #	Note
1	1	Red Computer Box	<b>5328</b>	Used on Early HoverTrek Models
2	1	Cable harness, Red	<b>6235</b>	Harness for Red Computer Box
2	1	Cable harness, Black	<b>6237</b>	Harness for Black Computer Box
3	1	0-compensation plug	<b>7205</b>	Used when optional manual enrichment device not used -
4	1	Shrink tube	<b>3192</b>	Place on plug with 3 wires (cable colors red, blue, black) 60 denotes length in mm
5	1	Air Temp Sensor	<b>7525</b>	
6	1	Engine Temp Sensor	<b>7526</b>	Attached to Engine Block
7	1	Throttle Pos. Sensor	<b>7567</b>	
8	1	Black Computer Box	<b>6382</b>	Used on Current HoverTrek Models

## Hirth HT4 Air Box Assembly

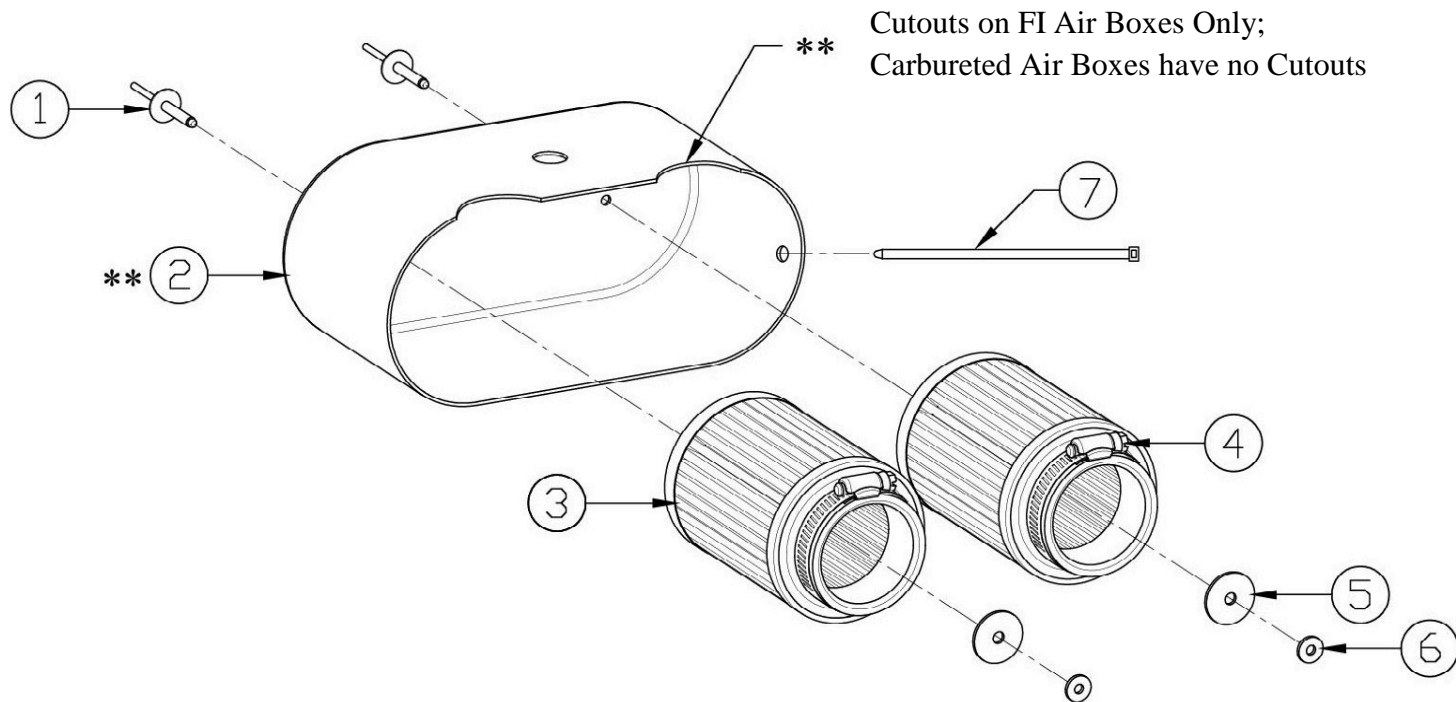


Fig. No.	Qty	Designation	Neoteric Part #	Remark
1	2	Rivet	<b>2156</b>	
2	1	Fiberglass Air Box, Carbureted	<b>5584</b>	
2	1	Fiberglass Air Box, FI	<b>7764</b>	
3	2	Air Filter	<b>6622</b>	Includes item 4
4	2	Hose Clamp	-	
5	2	Large Washer	<b>2516</b>	
6	2	Small Washer	<b>2352</b>	
7	2	Wire Tie	<b>2371</b>	Safety tie
-	-	Air Box Assembly, Carbureted	<b>5583</b>	Includes item 1 - 7 as shown above
-	-	Air Box Assembly, FI	<b>7765</b>	Includes item 1 - 7 as shown above

# Hirth Fuel System

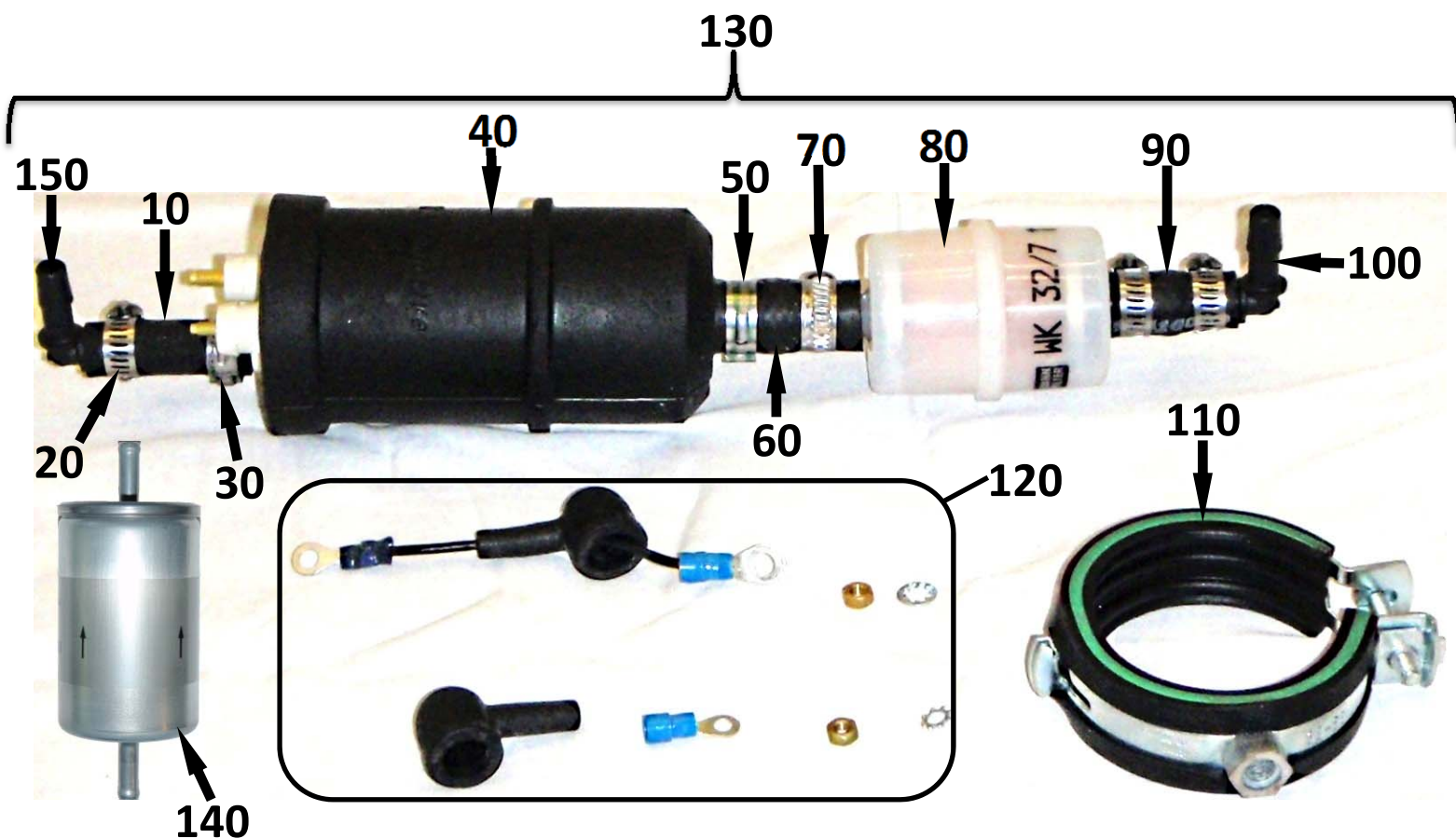
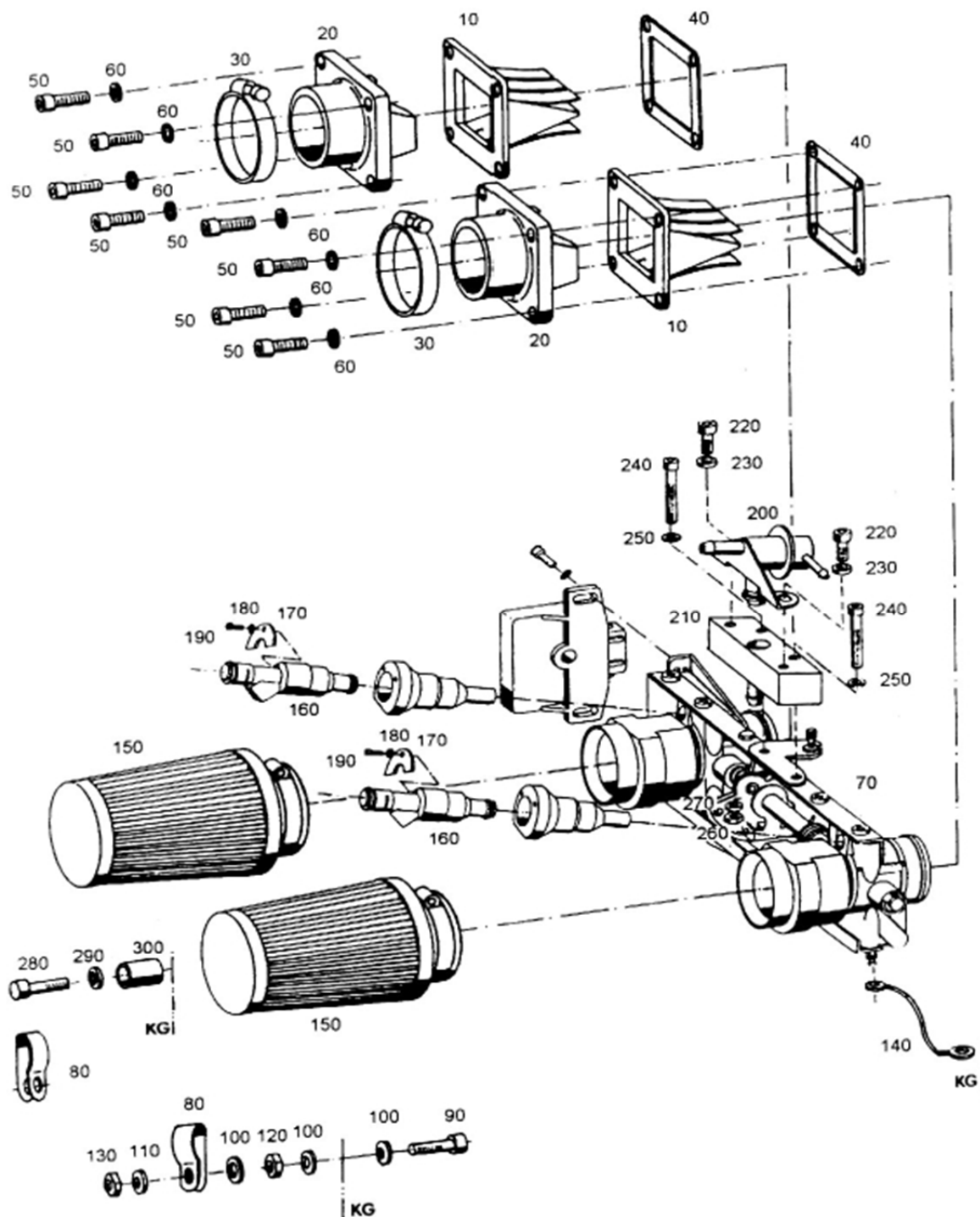
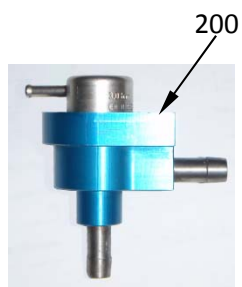


Fig. No.	Qty.	Description	Neoteric Part #	Remark /Notes
10	1	Fuel Line	6335	
20	3	Screw/Band Hose Clamp	2203	
30	1	Pinch Hose Clamp, Sm	5993	
40	1	Electric Fuel Pump	6414	
50	1	Pinch Hose Clamp, Lg	5986	
60	1	Fuel Line	6334	
70	1	Gapless Hose Clamp	6943	
80	1	Fuel Filter	5372	
90	3"	Fuel Line	3193	
100	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	

## 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-2011-2019 (Engine #902754 & Higher)
200	-	Pressure regulator, Replacement	9632	2019- Onward (Current Replacement)
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	

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

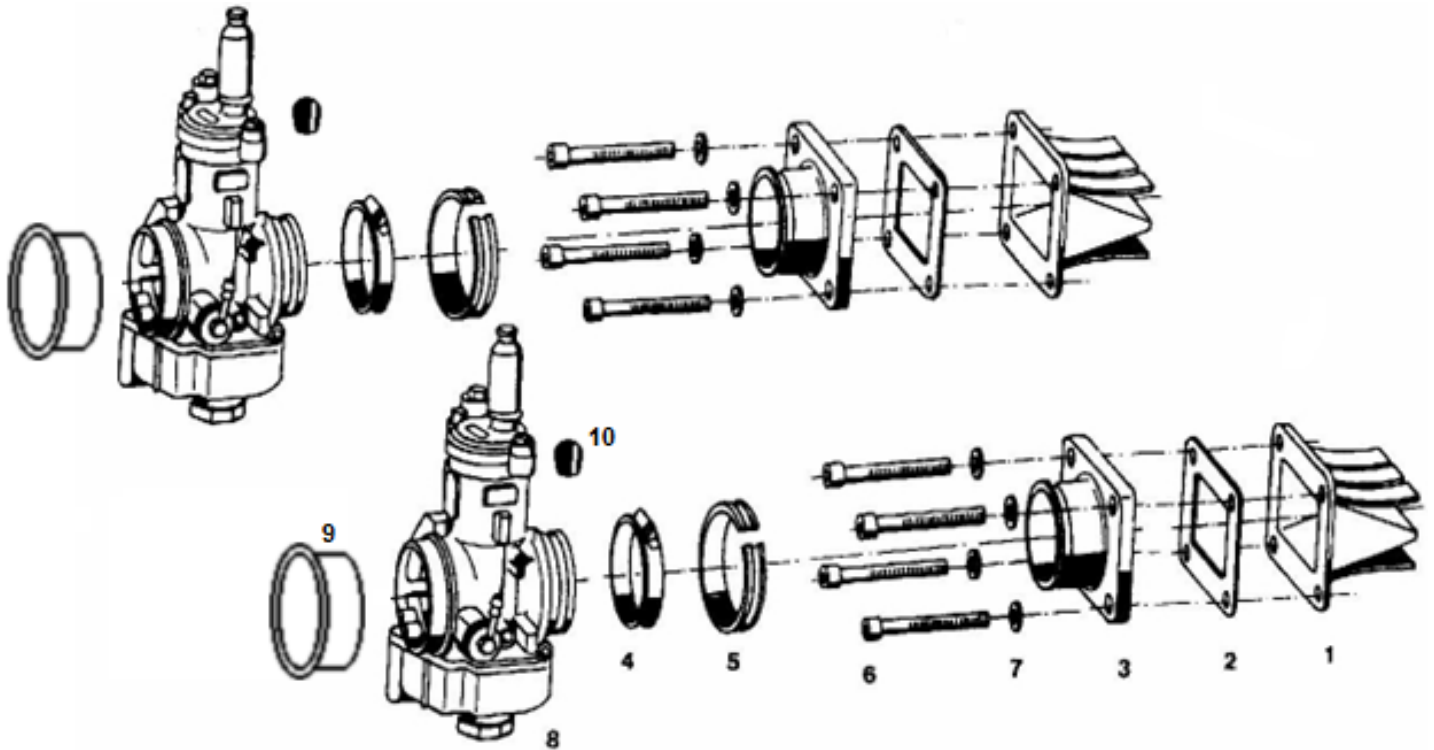
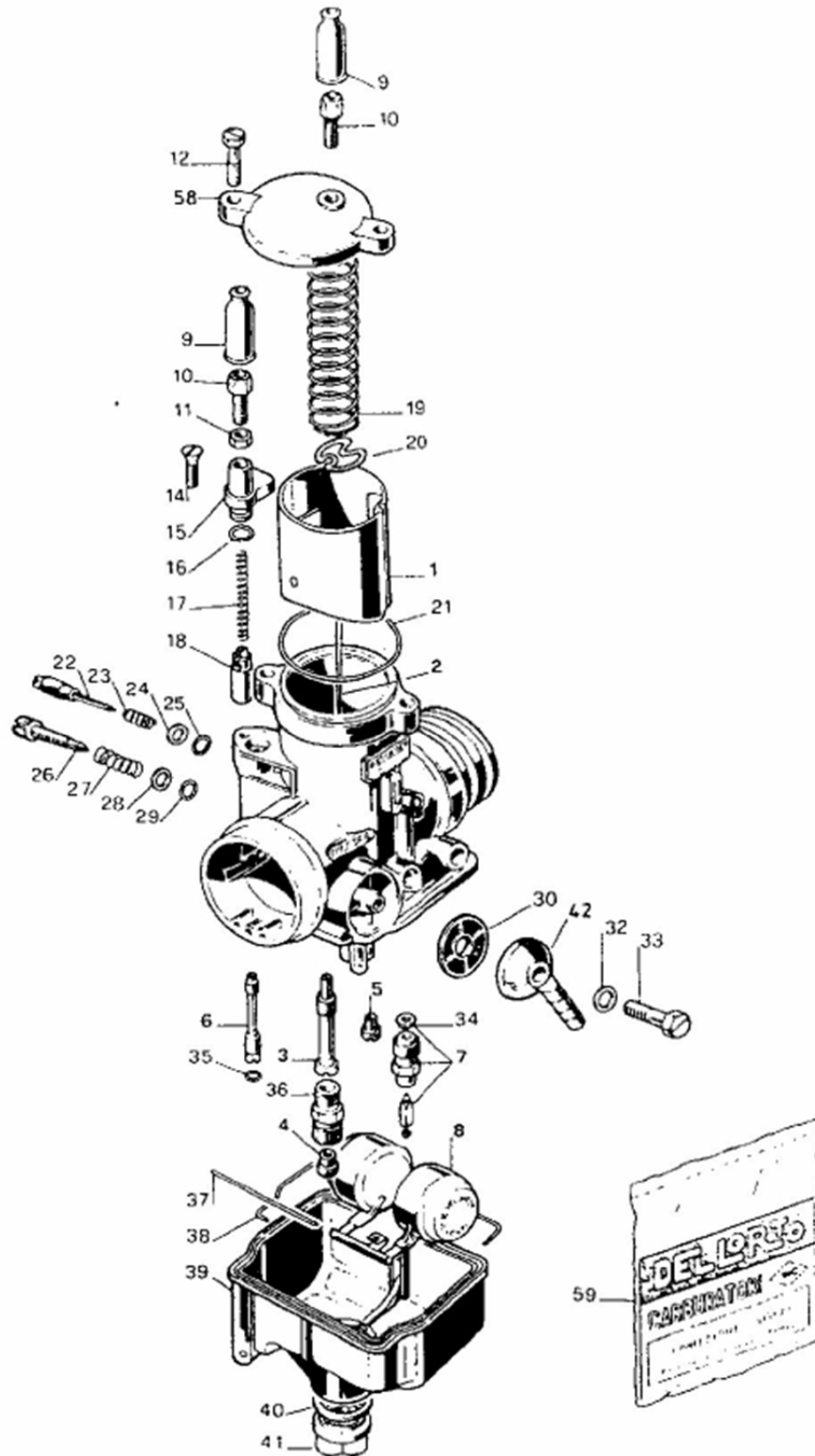


Fig No.	Qty.	Description	Neoteric Part #	Remark/Note
1	2	Reed valve	<b>7203</b>	
2	2	Gasket	<b>5463</b>	
3	2	Intake manifold/carb flange	<b>6568</b>	
4	2	Hose clamp	<b>9018</b>	
5	8	Rubber	<b>9019</b>	
6	8	Cylinder screw	<b>7183</b>	Torque = 9.6 - 11 Nm (7.1 - 8.1 ft-lb) Loctite 243
7	2	Washer	<b>6916</b>	
8	1	Dellorto Carburetor 65HP Front	<b>9264</b>	See Form 17754 / 17755 for Carb Parts
8	1	Dellorto Carburetor 65HP Back	<b>9265</b>	
9	2	Protective stopper	<b>7207</b>	
10		Hirth Rubber Socket	<b>7208</b>	

# Carburetor (Dellorto) PHBE 34



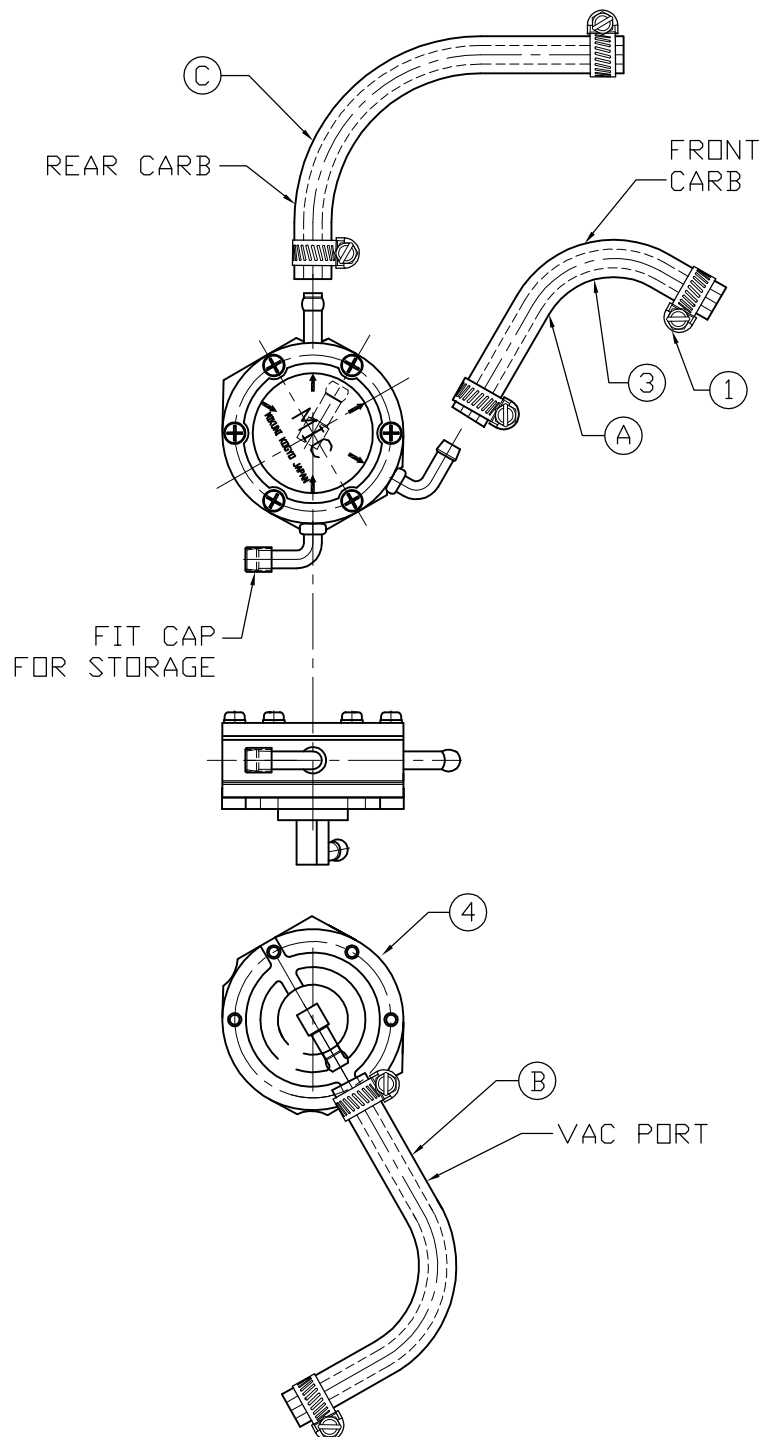


# Carburetor (Dellorto) F 33 A (PHBE 34 BD 6832)

Fig. No.	Qty.	Description	Neoteric Part #	Remark/Note
1	1	Throttle slide	9022	
2	1	Jet needle, K36	6563	
3	1	Needle jet	-	
4	1	Main jet	-	See Form # 17367 for all Dellorto Jets
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**

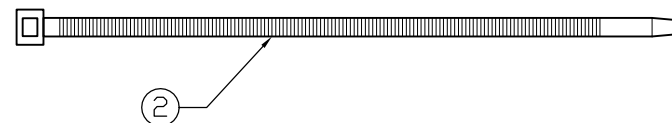
<b>Qty.</b>	<b>Description</b>	<b>Neoteric Part #</b>	<b>Remark / Note</b>
1	Main Jet, 155	<b>5443</b>	
	Main Jet, 142	<b>5444</b>	
	Main Jet, 145	<b>5467</b>	
	Main Jet, 160	<b>5863</b>	
	Main Jet, 150	<b>9294</b>	
	Main Jet, 158	<b>6193</b>	
	Main Jet, 165	<b>9295</b>	
	Main Jet, 170	<b>8207</b>	
	Main Jet, 162	<b>5864</b>	
	Main Jet, 175	<b>9598</b>	
	Main Jet, 180	<b>9599</b>	
	Main Jet, 190	<b>9374</b>	
	Main Jet, 200	<b>9878</b>	
1	Idle Jet, 40	<b>9817</b>	
1	Idle Jet, 65	<b>9023</b>	
1	Cold Start / Choke Jet, 90	<b>7788</b>	
1	Atomizer / Needle Jet, AB/265	<b>9069</b>	
	Atomizer / Needle Jet, AB/266	<b>5726</b>	
	Atomizer / Needle Jet, AB/262	<b>5760</b>	
	Atomizer / Needle Jet, AB/268	<b>6194</b>	
1	Jet Needle, K35	<b>9292</b>	
1	Jet Needle, K36	<b>6563</b>	




BOTTOM VIEW

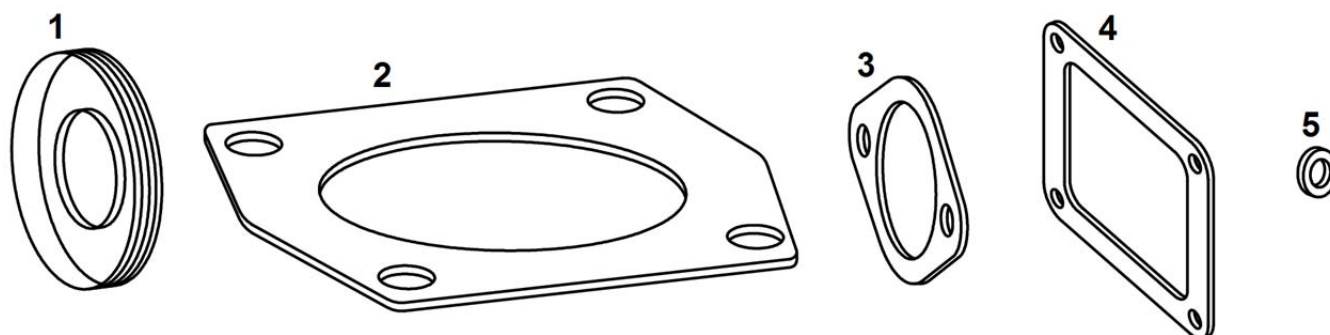
CUT SCHEDULE	
REF.	LENGTH
A	7.5
B	5.75
C	15.13

BILL OF MATERIAL			
REF.	PART #	DESCRIPTION	QTY.
1	2203	HOSE CLAMP, SS	6
2	2371	WIRE TIE	1
3	3000	FUEL HOSE	33.63
4	5465	FUEL PUMP	1



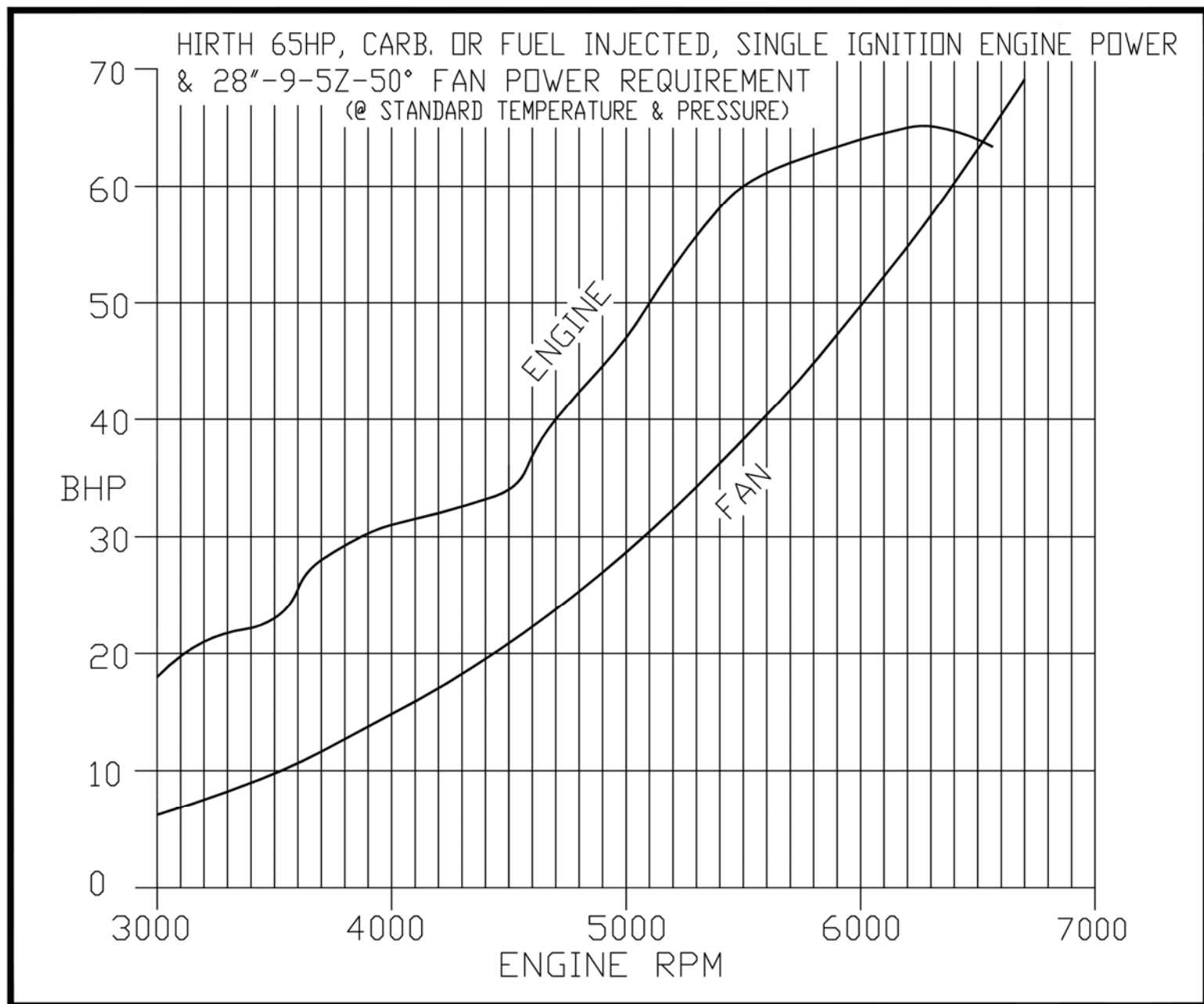
ALL DIMENSIONS IN IN AND [mm] TOLERANCE UNLESS OTHERWISE SPECIFIED:  X.XX ± 0.063" [0.160]		SIG. NO.		REVISION		DATE	
USED ON:		CHECKED:		 <b>Neoteric Hovercraft Inc.</b> 1649 TIPPECANOE STREET TERRE HAUTE, INDIANA, U.S.A. 47807-2394 TELEPHONE (812) 234-1120 FAX (812) 234-3217			
SCALE:		EW3 12-JAN-2015					
PAGE: 1 OF 1		CJ173 12-JAN-2015					
WEIGHT:		DATE: 1 FEB, 2013		NAME: CJ POEHLEIN		NUMBER: 17747	
				65HP DELLORTO FUEL PUMP ASSY.		REV. 2	

**65HP Gasket Set  
(3203)**



<b>Fig. No.</b>	<b>Qty.</b>	<b>Description</b>	<b>Neoteric Part #</b>	<b>Remark / Notes</b>
-	1	65HP Gasket Set	<b>7988</b>	Includes Fig 1, 2, 3, 4, 5
1	2	Crankshaft Seal	<b>5453</b>	
2	2	Cylinder Base Gasket	<b>5455</b>	
3	2	Exhaust Outlet Gasket	<b>5245</b>	
4	1	Single Carb Intake Gasket	<b>5463</b>	
5	2	Vacuum Nipple Gasket Washer	<b>5629</b>	

**65HP Hirth Engine/Fan Power Requirement Graph**



65HP Fan Altitude Performance Graph

