

# **INSTRUCTIONS**

J05613



# SE120R SCREAMIN' EAGLE PRO RACE-USE CRATE ENGINE

# GENERAL

### Kit Number

19206-13

### Models

For model fitment information, see the P&A Retail Catalog or the Parts and Accessories section of www.harley-davidson.com (English only).

#### NOTE

This engine is for race use only! You must remove the emissions label and license plate from the factory chassis.

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# **Additional Parts Required**

For 2007-2011 Softail models (except FXCW and FXCWC): Installation of SE High Capacity Compensator Kit (Part Number 40274-08A) is **REQUIRED** for installation of this engine.

Recommended synthetic engine oil, Screamin' Eagle SYN3<sup>®</sup> 20W50 (p/n 99824-03/00QT).

Clutch kit that will support a minimum of 140 ft-lbs of torque.

SE throttle body, Air Cleaner and High Flow injectors. Refer to the Screamin' Eagle Pro Catalog or contact a Harley-Davidson dealer.

SE exhaust gaskets kit (p/n 17048-98).

Oil cooler is recommended. See P&A Retail Catalog or the Parts and Accessories section of www.harley-davidson.com.

SE Pro Super Tuner. Refer to Screamin' Eagle Pro Catalog or contact a Harley-Davidson dealer.

See appropriate sections in service manual for the special tools required to install this kit.

### **WARNING**

Rider and passenger safety depend upon the correct installation of this kit. Use the appropriate service manual procedures. If the procedure is not within your capabilities or you do not have the correct tools, have a Harley-Davidson dealer perform the installation. Improper installation of this kit could result in death or serious injury. (00333b)

#### NOTE

This instruction sheet references service manual information. A service manual for your model motorcycle is required for this installation and is available from a Harley-Davidson dealer.

# REMOVAL

# **Remove OEM Engine**

1. Position the motorcycle on a suitable lift.

### NOTE

If vehicle is equipped with a Harley-Davidson Smart Security System, see owner's manual for instructions to disarm the system.

2. Remove seat. See service manual.

### A WARNING

When servicing the fuel system, do not smoke or allow open flame or sparks in the vicinity. Gasoline is extremely flammable and highly explosive, which could result in death or serious injury. (00330a)

- 3. Remove the main fuse. See service manual.
- 4. Remove fuel tank. See service manual.
- 5. Refer to ENGINE section of the appropriate service manual for removal of engine from chassis.

# SE120R ENGINE INSTALLATION

- 1. Before installing the engine, make sure there is no debris or contaminates in the oiling system. The oil tank should be flushed-out. The tank flush-out should be performed by an authorized dealer or qualified technician.
- 2. Remove the oil passage caps/plugs at the engine to transmission interface.
- 3. Refer to the ENGINE section of the appropriate service manual for installation of the engine to the chassis.

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4. For 2007-2011 Softail models (except FXCW and FXCWC): Install SE High Capacity Compensator Kit (40274-08A, purchased separately) following instructions included with kit. For 2012-Later Softail Models (All FXCW and FXCWC): Install original equipment compensator following instructions in the service manual.

# **Final Assembly**

- 1. Install fuel tank. See service manual.
- 2. Install main fuse. See service manual.
- 3. Install seat. After installing seat, pull up on seat to verify that it is secure. See service manual.

### NOTICE

You must recalibrate the ECM when installing this kit. Failure to properly recalibrate the ECM can result in severe engine damage. (00399b)

- 4. Download the new ECM calibration when installing this kit. Refer to the Screamin' Eagle Pro Catalog or contact a Harley-Davidson dealer.
- 5. Start and run the engine. Repeat several times to verify proper operation.

# OPERATION

1. Refer to BREAK-IN RIDING RULES in the owner's manual for instructions to break-in the new engine.

# MAINTENANCE

- 1. Refer to the MAINTENANCE SCHEDULE in the appropriate service manual or owner's manual.
- 2. For engine assembly/disassembly refer to the ENGINE section of the appropriate service manual.

# **SE120R ENGINE SPECIFICATIONS**

NOTE

The following sections provide unique information not available in the service manual ENGINE section for the appropriate Twin Cam 96<sup>TM</sup> alpha engines from Touring or Dyna platforms.

ltem	Specification	
Compression Ratio	10.5	
Bore	4.060 in.	103.12 mm
Stroke	4.625 in.	117.48 mm
Displacement	119.75 in.	1962.39 cc
Lubrication system		d dry sump
	with oil	cooler
Maximum sustained engine	6200	RPM
speed		

### Table 2. Engine: SE Twin Cam 120R

# MANUFACTURING TOLERANCES

Refer to the Twin-Cam  $96^{\text{TM}}$  specifications in the service manual for any specification not shown in the following tables.

### Table 3. Cylinder Heads

ITEM	IN.	MM
Valve guide in head (tight)	0.0020-0.0033	0.051-0.084
Intake valve seat in head (tight)	0.004-0.0055	0.102-0.140
Exhaust valve seat in head (tight)	0.004-0.0055	0.102-0.140

#### Table 4. Valves

ITEM	IN.	MM
Fit in guide (intake and exhaust)	0.0011-0.0029	0.028-0.074
Seat width	0.034-0.062	0.86-1.57
Stem protrusion from cylinder head boss	1.990-2.024	50.55-51.41

#### Table 5. Valve Springs Specifications

ITEM	PRESSURE	DIMENSION
Closed		1.800 in. (45.7 mm)
Open		1.177 in. (29.9 mm)
Free length	n/a	2.210 in. (56.1 mm)

### Table 6. Pistons

Piston:	Clearance (in.)
Piston-to-cylinder fit (Loose)	0.0026-0.0036
Piston pin fit (Loose)	0.0003-0.0008
Top Ring End Gap	0.012-0.020
Second Ring End Gap	0.016-0.024
Oil Control Ring Rail Gap	0.008-0.0028
Top Ring Side Clearance	0.0010-0.0022
Second Ring Side Clearance	0.0010-0.0022
Oil Control Ring Side Clearance	0.0003-0.0072

### Table 7. Cam Specifications - SE266E

Intake	Specification	
Opens	24 BTDC	
Closes	58 ABDC	
Duration	262 <sup>0</sup>	
Max. Valve Lift	0.658 in.	
Valve Lift @ TDC	0.208 in.	
Exhaust	Specification	
Opens	69 BBDC	
Closes	17 ATDC	
Duration	266 <sup>0</sup>	
Max. Valve Lift	0.658 in.	
Valve Lift @ TDC	0.178 in.	
Cam Timing @ 0.053" of Tappet Lift in Crankshaft Degrees		

# SERVICE WEAR LIMITS

Wear limits can be used as a guide when deciding whether to reuse engine parts. Replace used parts whenever the following wear limits are exceeded.

### NOTE

Refer to the Twin-Cam 96 specifications in the service manual for any specification not shown in the following tables

Table 8. Cylinders			
ITEM	REPLACE IF WEAR EXCEEDS		
	IN.	MM	
Taper	0.002	0.051	
Out of round	0.002	0.051	
Warpage of gasket or	0.006	0.152	
O-ring surfaces: top			
Warpage of gasket or	0.004	0.102	
O-ring surfaces: base			

Table 0. Cullindare

#### Table 9. Cylinder Bore

ITEM	REPLACE IF W	EAR EXCEEDS
	IN.	MM
Standard	4.062	103.17
0.010 in. oversize	4.072	103.43

## Table 10. Pistons

Piston-to-cylinder fit (Loose)	Wear Limit (in.)
Fit in cylinder (Loose)	0.0061
Piston Pin Fit (Loose)	0.0011
Top Ring End Gap	0.030
Second Ring End Gap	0.034
Oil Control Ring Rail Gap	0.038
Top Ring Side Clearance	0.0030
Second Ring Side Clearance	0.0030
Oil Control Ring Side Clearance	0.0079

# SE120R CYLINDERS

1. Position motorcycle on a suitable lift.

#### NOTE

If vehicle is equipped with Harley-Davidson Smart Security System, see owner's manual for instructions to disarm the system.

2. Remove seat according to the instructions in the service manual.

#### A WARNING

When servicing the fuel system, do not smoke or allow open flame or sparks in the vicinity. Gasoline is extremely flammable and highly explosive, which could result in death or serious injury. (00330a)

- 3. Remove main fuse. Refer to service manual for your motorcycle.
- 4. Remove fuel tank according to the instructions in the service manual.

# **Remove Engine Components**

- 1. Refer to service manual to remove existing air cleaner assembly.
- 2. Remove the existing exhaust system following service manual procedures.
- 3. Disassemble the engine top end. Refer to the appropriate engine sections in the service manual.

# **Install Engine Top End Components**

#### NOTE

Figure 1. The 4.060 in. cylinder base gasket (1) and cylinder head gasket (2) eliminate the need for O-rings. Do not use O-rings on cylinder dowels or cylinder spigots.

When installing new base gasket (1), install with the embossed side down and the concave side up.

- 1. Refer to the appropriate service manual and assemble the engine with the following changes:
  - a. Assemble the top end of the engine using the base gaskets and head gaskets provided in the kit. Refer to the appropriate engine section in the service manual.

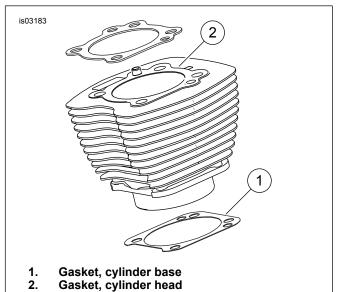


Figure 1. Cylinder Gaskets

# **Final Assembly**

- 1. Install fuel tank. See service manual.
- 2. Install main fuse. See service manual.
- 3. Install seat. After installing seat, pull up on seat to verify that it is secure. See service manual.

## **SE120R PISTON**

1. Refer to ENGINE section of service manual

### INSTALLATION

#### A WARNING

To prevent accidental vehicle start-up, which could cause death or serious injury, disconnect battery cables (negative (-) cable first) before proceeding. (00307a)

#### A WARNING

Disconnect negative (-) battery cable first. If positive (+) cable should contact ground with negative (-) cable connected, the resulting sparks can cause a battery explosion, which could result in death or serious injury. (00049a)

1. Refer to the service manual and follow the instructions given to remove the seat and disconnect the battery cables, negative cable first.

#### A WARNING

When servicing the fuel system, do not smoke or allow open flame or sparks in the vicinity. Gasoline is extremely flammable and highly explosive, which could result in death or serious injury. (00330a)

- Refer to the ENGINE: STRIPPING MOTORCYCLE FOR SERVICE and TOP END OVERHAUL, DISASSEMBLY sections of the service manual for cylinder head, cylinder and piston removal procedures.
- Follow the procedures in the ENGINE: SUBASSEMBLY SERVICE AND REPAIR, TOP END/ CYLINDER/ UPPER CONNECTING ROD sections of the service manual for inspection of parts.
- See the ENGINE: SUBASSEMBLY SERVICE AND REPAIR, CYLINDER section of the service manual for boring and honing instructions.

#### NOTE

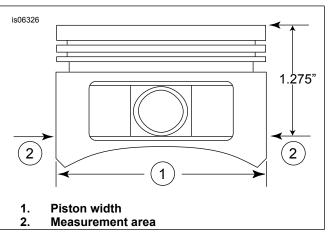
Install the top ring (barrel-faced) and second ring (taper-faced Napier) with the "N" marking facing up. Oil ring rails can be installed either side up.

The 4.060 inch cylinder base gaskets and cylinder head gaskets included in the kit eliminate the need for O-rings (11273). **Do not** use O-rings on cylinder dowels or cylinder spigots.

When installing new base gasket, install with the embossed side down and the concave side up.

#### NOTE

Checking piston-to-cylinder fit at this location per table 11 is for reference.



**Figure 2. Piston Measurements** 

- 5. See Figure 2. Measure the piston width (1), 90 degrees horizontally from both sides of the piston pin hole and 1.275 in. down from the deck surface (top) of the piston (2). See table 11 for piston-to-cylinder fit at this location.
- 6. The pistons in this kit are front and rear specific. Install the piston marked "FRONT" in the front cylinder with the arrow pointing towards the **front** of the engine. Install the piston marked "REAR" in the rear cylinder with the arrow pointing towards the **front** of the engine.
- 7. Refer to the ENGINE: TOP END OVERHAUL, ASSEMBLY section of the service manual for piston, cylinder and cylinder head installation procedures.

#### **Table 11. Specifications**

Piston:	Clearance (in.)
Piston-to-cylinder fit (Loose)	0.0026-0.0036
Piston pin fit (Loose)	0.0003-0.0008
Top Ring End Gap	0.012-0.020
Second Ring End Gap	0.016-0.024
Oil Control Ring Rail Gap	0.008-0.0028
Top Ring Side Clearance	0.0010-0.0022
Second Ring Side Clearance	0.0010-0.0022
Oil Control Ring Side Clearance	0.0003-0.0072

#### Table 12. Service Wear Limits

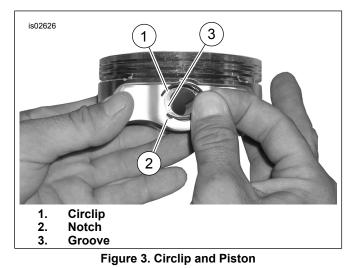
Piston-to-cylinder fit (Loose)	Wear Limit (in.)
Fit in cylinder (Loose)	0.0061
Piston Pin Fit (Loose)	0.0011
Top Ring End Gap	0.030
Second Ring End Gap	0.034
Oil Control Ring Rail Gap	0.038
Top Ring Side Clearance	0.0030
Second Ring Side Clearance	0.0030
Oil Control Ring Side Clearance	0.0079

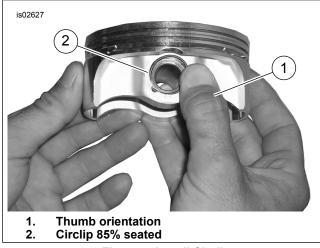
# Piston Pin Retaining Ring (Circlip) Installation

NOTE

Circlip gap must be at 12:00 or 6:00 position when installed.

1. See Figure 3. Insert the open end of the circlip (1) into the notch (2) on the groove (3) around the piston pin boss so that the gap is at the 12:00 or 6:00 o'clock position when installed.





- Figure 4. Install Circlip
- 2. See Figure 4. Position your thumb (1) as shown, and press firmly until approximately 85% of the circlip (2) is seated in the groove.
- Being careful not to scratch or mar the piston, use a small-bladed screwdriver to wedge the circlip into the remainder of the groove. Repeat for the remaining circlips.

#### NOTE

Make sure the piston circlip is fully seated, or ENGINE DAMAGE WILL OCCUR.

4. Refer to the ENGINE: ASSEMBLING MOTORCYCLE AFTER STRIPPING section of the service manual for final re-assembly procedures.

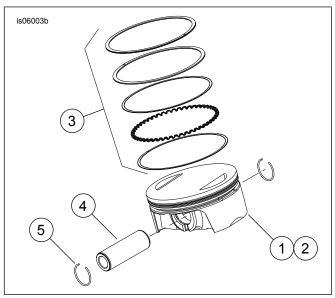


Figure 5. Piston Assembly

#### Table 13. Piston Assembly

<b>_</b>		
ltem	Description (Quantity)	
1	Piston (front, standard)	
2	Piston (rear, standard)	
3	Ring set, standard (2)	
4	Piston pin (2)	
5	Circlip (4)	
1	Piston (front, +0.010)	
2	Piston (rear, +0.010)	
3	• Ring set, +0.010 (2)	
4	Piston pin (2)	
5	Circlip (4)	

## **REPLACING/SERVICING PUSHRODS**

1. Refer to ENGINE section of service manual.

#### NOTE

Follow the appropriate service manual procedures for installing and removing the pushrods. The pushrods are marked Intake and Exhaust.

The pushrods are directional. Be sure the larger end of the pushrods are installed down in the lifter sockets.

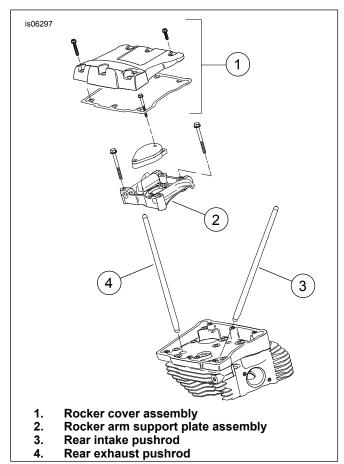


Figure 6. Push Rods

# SERVICE PARTS

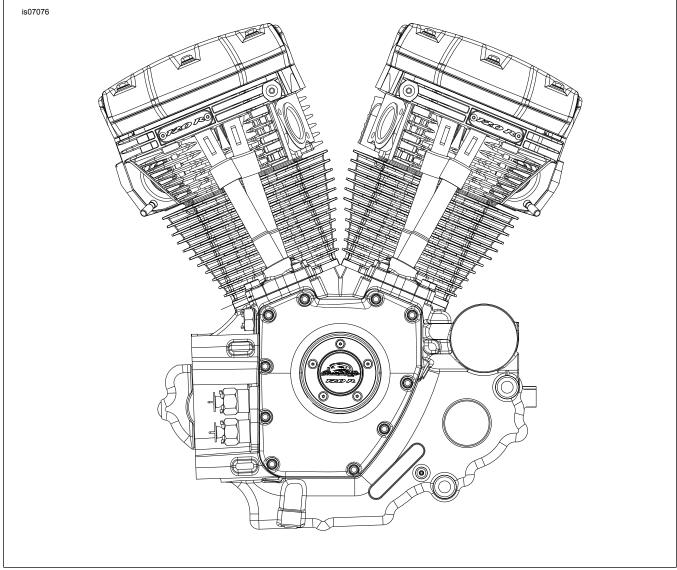


Figure 7. Service Parts: Engine Assembly, SE 120R Complete

Item	Description (Quantity)	Part Number
1	Engine assembly, complete	19206-13

is06380a

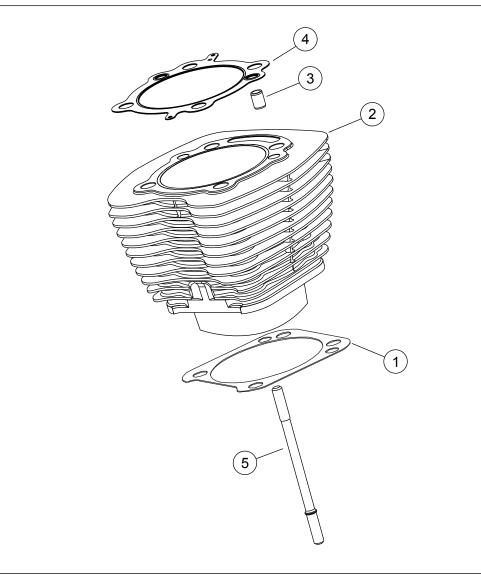


Figure 8. Service Parts: SE120R Screamin' Eagle Pro Race-Use Crate Engine

Item	Description (Quantity)	Part Number
1	Base gasket, cylinder (2)	16736-04
2	SE cylinder kit, 4.060 in., (black) (includes items 1, 3, 4, 1105 and 1086A)	16550-04C
3	Dowel pin, ring (4)	16595-99A
4	Gasket, cylinder head (2)	16104-04
5	Stud, cylinder (8)	16834-99A
6	Gasket kit, engine overhaul (does not include cylinder head gasket, base gasket or valve stem seals) (Not Shown)	17053-99C
7		17052-99C
	(Not Shown)	11002 000

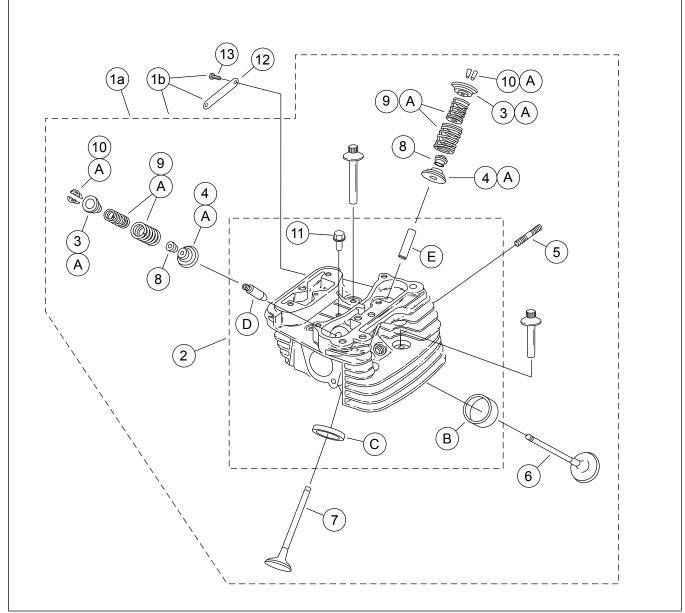


Figure 9. Service Parts: SE120R Screamin' Eagle Pro Race-Use Crate Engine

ltem	Description (Quantity)	Part Number
1	Cylinder head assembly, rear (includes items 2 through 13)	17444-10
	Cylinder head assembly, front (includes items 2 through 13)	17444-10
2	Cylinder head (machined, with items B, C, D and E installed)	Not Sold Separately
3	Collar, valve spring, upper (4)	See Service Kits
4	Collar, valve spring, lower (4)	See Service Kits
5	Stud, exhaust port (4)	16715-83
6	Intake valve (2)	18190-08
7	Exhaust valve (2)	18183-03
8	Seal, valve (4)	18046-98
9	Valve spring unit (4)	See Service Kits
10	Retainer, valve collar (8). Also included with Kit 18281-02A	18240-98

Table 16. Service Parts: SE120R Screamin' Eagle Pro Race-Use Crate Engine
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Description (Quantity)	Part Number
Automatic compression release plug (2)	16648-08
	17136-10
Screw, button head TORX (4)	25800017
Screw, internal thread, 3-3/16 inch (4)	16478-85A
Screw, internal thread, 1-7/8 inch (4)	16480-92A
Spark plugs (not shown) (2)	32186-10
Kits:	
	18281-02A
	18191-08
	18048-98A
• (+ 0.003 in.)	18158-05
• (+ 0.002 in.)	18156-05
• (+ 0.001 in.)	18154-05
Valve guide, exhaust (for service)	
• (+ 0.003 in.)	18157-05
• (+ 0.002 in.)	18155-05
• (+ 0.001 in.)	18153-05
	<ul> <li>Automatic compression release plug (2)</li> <li>Medallion, "120R" (2)</li> <li>Screw, button head TORX (4)</li> <li>Screw, internal thread, 3-3/16 inch (4)</li> <li>Screw, internal thread, 1-7/8 inch (4)</li> <li>Spark plugs (not shown) (2)</li> <li><b>Kits:</b></li> <li>Valve Spring Kit, Screamin' Eagle</li> <li><b>lowing Screamin' Eagle parts are available separately:</b></li> <li>Valve seat, intake</li> <li>Valve seat, exhaust</li> <li>Valve guide, intake (for service)</li> <li>(+ 0.002 in.)</li> <li>(+ 0.003 in.)</li> <li>(+ 0.003 in.)</li> <li>(+ 0.003 in.)</li> <li>(+ 0.002 in.)</li> </ul>

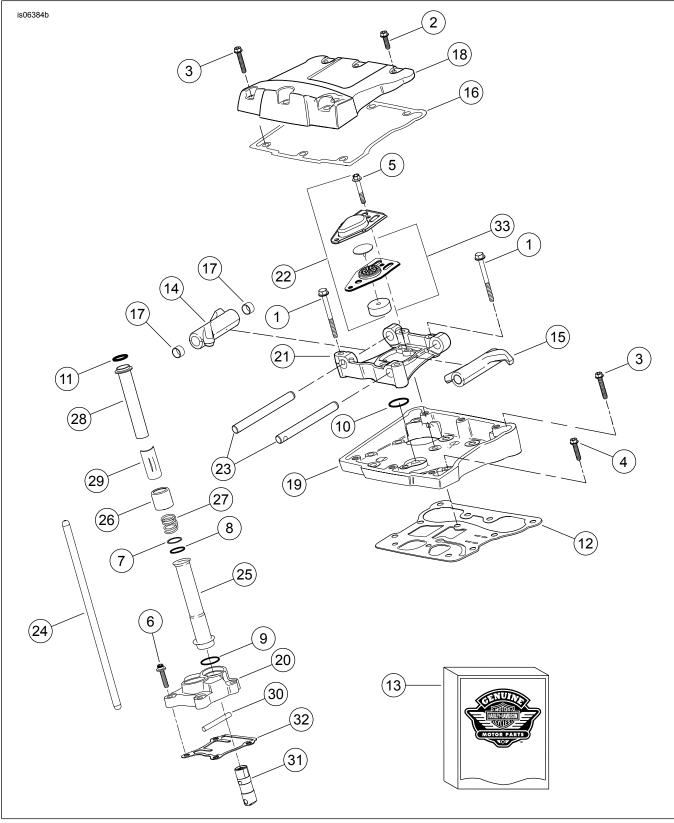


Figure 10. cService Parts: SE120R Screamin' Eagle Pro Race-Use Crate Engine

### Table 17. Service Parts: SE120R Screamin' Eagle Pro Race-Use Crate Engine

Item	Description (Quantity)	Part Number
1	Screw 5/16-18 X 2-1/2 hex flange hd. (Grade 8) (8)	1039
2	Screw 5/16-18 X 1.0 hex hd., w/lockpatch (6)	3692A
3	Screw 5/16-18 X 1-3/4 hex hd., w/lockpatch (10)	3693A

ltem	Description (Quantity)	Part Number
4	Screw 5/16-18 X 1-1/4 hex flange hd., w/lockpatch (8)	3736B
5	Screw 1/4-20 hex flange X 1-11/16 hex hd., w/lock patch, (Grade 8) (4)	4400
6	Screw 1/4-20 X 1 socket hd., w/lockpatch (8)	4741A
7	Washer 11/16 X 29/32 X 1/32 (4)	6762B
8	O-ring, push rod cover (4)	11132A
9	O-ring, push rod cover (4)	11145A
10	O-ring (2)	11270
11	O-ring (4)	11293
12	Gasket, rocker housing (2)	16719-99B
13	Gasket kit, cam service	17045-99D
14	Rocker arm, front intake, rear exhaust, with bushings (2)	17360-83A
15	Rocker arm, rear intake, front exhaust, with bushings (2)	17375-83A
16	Gasket, rocker cover (2)	17386-99A
17	Bushing, rocker arm (8)	17428-57
18	Rocker cover, (chrome) (2)	17572-99
19	Rocker housing, (chrome) (2)	17578-10
20	Lifter cover, front (chrome)	17964-99
	Lifter cover, rear (chrome)	17966-99
21	Support, rocker arm (2)	17594-99
22	Breather assembly kit, (2)	17025-03A
23	Shaft, rocker arm (4)	17611-83
24	Perfect Fit push rod kit (+0.030 inch)	18401-03
25	Cover, push rod, lower (4)	17939-99
26	Cap, cover spring (4)	17945-36B
27	Spring, push rod cover (4)	17947-36
28	Cover, push rod upper (4)	17948-99
29	Retainer, spring cap (4)	17968-99
30	Pin, anti-rotation (2)	18535-99
31	Hydraulic lifter (4)	17900022
32	Gasket, lifter cover (2)	18635-99B
33	Baffle assembly, breather (2)	26500002

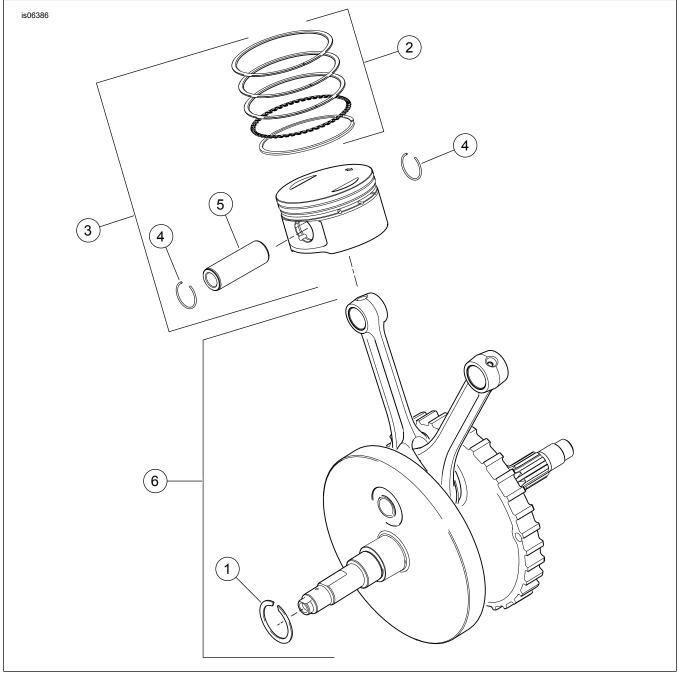


Figure 11. Service Parts; SE120R Screamin' Eagle Pro Race-Use Crate Engine

Item	Description (Quantity)	Part Number
1	Retaining ring	11177A
2	Piston ring set, standard (2)	22526-10
	Piston ring set, 0.010 inch over size (2)	22529-10
3	Piston kit, front and rear, with ring sets, piston pin and lock rings, standard	22574-10
	Piston kit, front and rear, with ring sets, piston pin and lock rings, 0.010 inch over size	22576-10
4	Lock ring, piston pin (4)	22097-99
5	Piston pin (2)	22310-10
6	Flywheel assembly kit	24100013

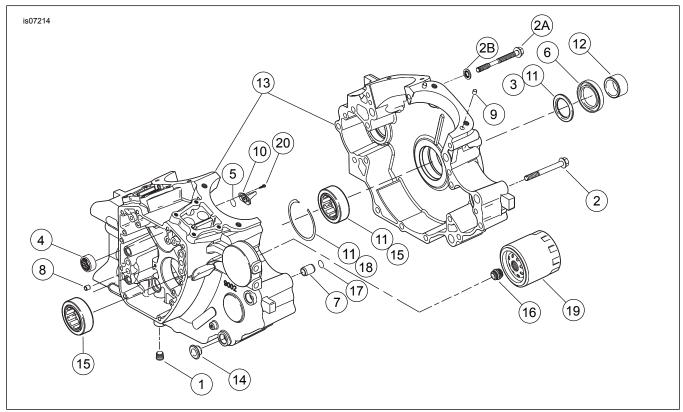


Figure 12. Service Parts: SE120R Screamin' Eagle Pro Race-Use Crate Engine

Table 19	Sorvico	Darte:	SE120D	Scroamin'	Eagle Pro	Paca-Hea	Crate Engine
Table 19.	Service	raits.	SEIZUR	Screamin	Eagle FI0	Race-Use	Crate Engine

Item	Description (Quantity)	Part Number
1	Plug (3)	765
2	Screw, 5/16-18 x 3.0 inch, hex flange head, (11)	895
2a	Screw, top center crankcase	1105
2b	Washer, sealing	1086A
3	Washer 1-1/4 x 1-53/64 x 1/8 (2)	8972
4	Needle bearing kit, camshafts (2) (Kit includes 2)	24018-10
5	O-ring (2)	10930
6	Oil seal	12068
7	Dowel pin (2)	16574-99A
8	Dowel pin (2)	16589-99A
9	Dowel pin (4)	16595-99A
10	Piston cooling jet, with 10930 (2)	22315-06A
11	Bearing kit, left side with 8972, 24605-07, 35114-02, and inner race	24004-03B
12	Spacer, sprocket shaft	24009-06
13	Crankcase set, (black) with bearings, cooling jets, and through bolts including bolt 21	24400001
14	Spacer (4)	24603-00
15	Bearing, main (2)	24605-07
16	Adapter, oil filter	26352-95A
17	Retaining ring	35114-02
18	Oil filter (chrome)	63798-99A
19	Screw, TORX <sup>®</sup> head, 8-32 x 3/8 (4)	68042-99
20	Screw, TORX <sup>®</sup> button head, bearing retention, 1/4 - 20 x 7/16 inch (2)	703B

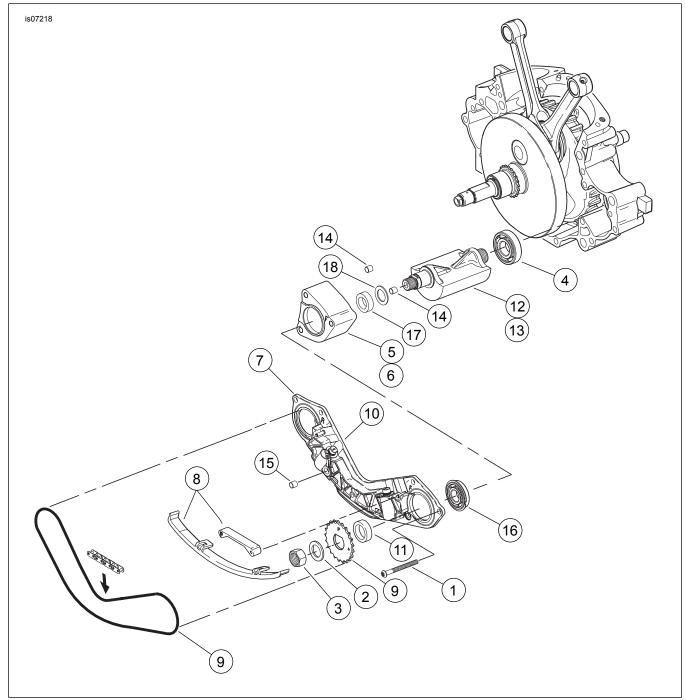


Figure 13. Service Parts: SE120R Screamin' Eagle Pro Race-use Crate Engine

#### Table 20. Service Parts Table

ltem	Description (Quantity)	Part Number
1	Screw (2)	703B
2	Screw (6)	956
3	Bolt, balancer shift bolt (2)	3110
4	Washer, balancer shift bolt (2)	6456
5	Bearing, shell (2)	8959
6	Bearing, (2)	8992A
7	Support assembly, chain guide, includes tensioner pistons	14728-07
8	Guide drive kit, w/14769-00, front and rear sprockets	14761-00
9	Guide kit, chain tensioner, includes lower front and rear guides	14762-00
10	Piston assembly kit, chain tensioner (2)	14764-00
11	Chain, balancer drive	14769-00
12	Spacer, .039 thick	14784-07

### Table 20. Service Parts Table

Item	Description (Quantity)	Part Number
13	Balance shaft kit, w/8959, 8992A and balance shaft (2)	14789-07
14	Bushing, dowel (2)	16583-00A
15	Retaining ring, balancer shift bearing (2)	35240-07
16	Seal, oil interconnect	45359-00

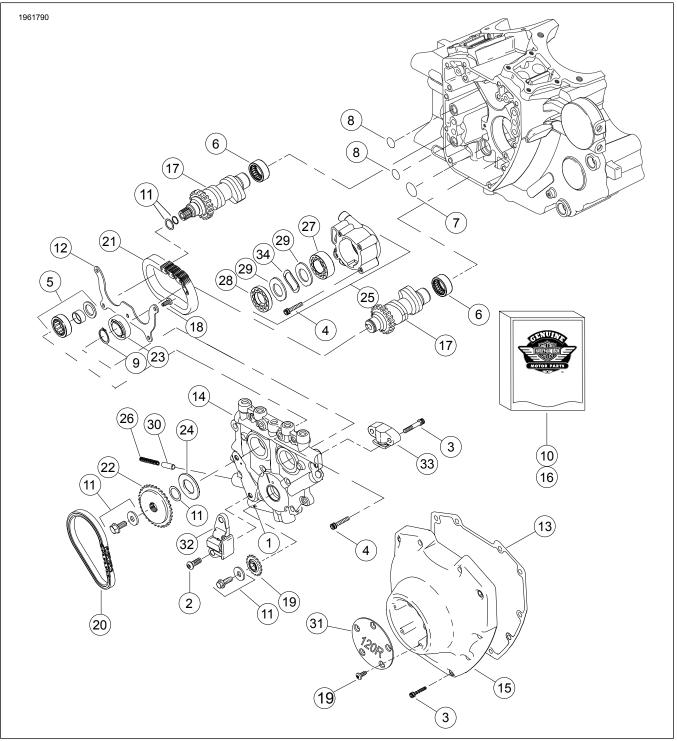


Figure 14. Service Parts: SE120R Screamin' Eagle Pro Race-use Crate Engine

### Table 21. Service Parts: SE120R Screamin' Eagle Pro Race-use Crate Engine

Item	Description (Quantity)	Part Number
1	Roll pin	601
2	Screw, primary cam chain tensioner (2)	942

Table 21. Service Parts: SE120R Screamin	' Eagle Pro Race-use Crate Engine
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Item	Description (Quantity)	Part Number
3	Screw, cam cover, 1/4-20 x 1-1/4, knurled with lockpatch (grade 8), (10)	4740A
Ŭ	Screw, secondary cam tensioner, 1/4-20 x 1-1/4, knurled with lockpatch (grade 8), (2)	4740A
4	Screw, 1/4-20 x 1, socket head, with lockpatch (8)	4741A
5	Bearing assembly w/bearing, inner race, washer and O-ring	8983
6	Needle bearing kit, camshafts (2) (Kit includes 2)	24018-10
7	O-ring	11293
8	O-ring (2)	11301
9	Retaining ring	11494
10	Gasket kit, cam service	17045-99D
11	Cam drive sprocket retention kit, screws and washer	91800088
12	Plate, bearing retaining	1200018
13	Gasket, cam cover	25244-99A
14	Cam support plate, with bypass valve	25400018
15	Cam cover, (chrome)	25369-01B
16	Camshaft chain and fastener kit, with 91800088, 25673-06, 25675-06 and 25728-06	25585-06
17	Camshaft, front and rear kit, SE266E	25400029
18		68042-99
	Screw, 8-32 x 3/8 TORX <sup>®</sup> head (9)	
19	Sprocket, cam drive on crankshaft, 17 T	25673-06
20	Chain, primary cam drive	25675-06
21	Chain, secondary cam drive	25607-99
22	Sprocket, cam drive, 34 T	25728-06
23	Ball bearing	8990A
24	Spacer, cam drive sprocket alignment 0.287 inch thick	25722-00
	Spacer, cam drive sprocket alignment 0.297 inch thick	25723-00
	Spacer, cam drive sprocket alignment 0.307 inch thick	25721-00
	Spacer, cam drive sprocket alignment 0.317 inch thick	25719-00
	Spacer, cam drive sprocket alignment 0.327 inch thick	25717-00 25725-00
	Spacer, cam drive sprocket alignment 0.337 inch thick Spacer, cam drive sprocket alignment 0.347 inch thick	11889
		11890
25	Spacer, cam drive sprocket alignment 0.357 inch thick Oil pump assembly, with items 27-29, 34 and body	62400001
25	Spring, relief valve	26210-99
20	Gerotor assembly, scavenge	Not Sold Separately
27	Gerotor assembly, scavenge	Not Sold Separately
20	Separator plate, gerotor (2)	Not Sold Separately
30	Relief valve, oil pump	26400-82B
30	Cover, 120R	25495-10
31	Cover, 120R Chain tensioner, primary cam drive chain	39968-06
33 34	Chain tensioner, secondary cam drive chain	39969-06 40323-00
<u> </u>	Spring, separator	40323-00