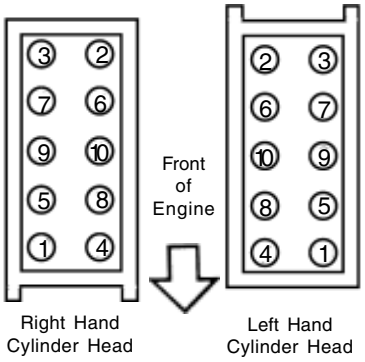
FEL-PRO INSTALLATION TIPS

HEAD BOLTS

IMPORTANT: In many cases the original equipment head bolts for this engine utilized a head bolt with a separate washer. The head bolts in this set are of most current design that utilize a washer flange integral to the bolt head. This design will replace the original head bolts and washer combination.
Consult the latest OEM torque specifications as changes may have taken place since this printing.
To assure proper engine re-assembly, the following procedures must be followed.
PRE-POSITION CRANKSHAFT: Crankshaft keyway must be positioned at 270° (45° BTDC) before installation of cylinder head. This insures that all pistons are below the top of the cylinder block deck surface which prevents interference of piston to valve.

Bolt Removal

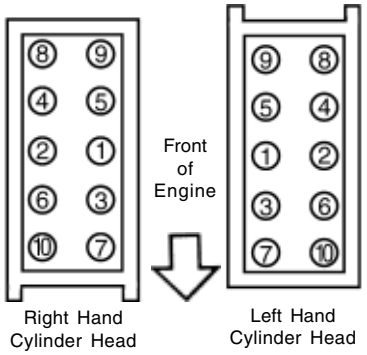


REMOVE HEAD BOLTS following sequence shown in illustration.

continued-

PREPARE BOLTS: Lubricate the underside of **every** bolt head with oil. Determine which bolts extend into the coolant passages. Those **entering** the coolant passages require pliable non-hardening sealer on the threads. Those bolts **not entering** the coolant passages require oil on the threads.

Bolt Assembly



IMPORTANT: Consult the latest OEM torque specifications as changes may have taken place since this printing.

TORQUE SPECIFICATIONS: Follow sequence shown in illustration, torque all **bolts** in the following steps:
Torque all bolts to 27-32 ft. lbs. (37-43 Nm.)
Rotate bolts 85-95°
Back out all bolts a minimum of one full turn (360°)
Torque all bolts to 27-32 ft. lbs. (37-43 Nm.)
Rotate bolts 85-95°
Finally, rotate all bolts an additional 85-95°.

TEST RUN ENGINE. Check all mating areas thoroughly to determine that all seals hold during operation.

Printed in U.S.A.
Form No. I-1679 (Rev. 05/12)

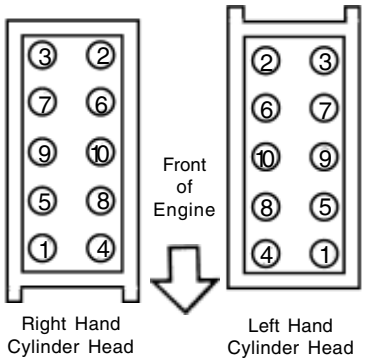
CUT TO 4 X 5.25

FEL-PRO INSTALLATION TIPS

HEAD BOLTS

IMPORTANT: In many cases the original equipment head bolts for this engine utilized a head bolt with a separate washer. The head bolts in this set are of most current design that utilize a washer flange integral to the bolt head. This design will replace the original head bolts and washer combination.
Consult the latest OEM torque specifications as changes may have taken place since this printing.
To assure proper engine re-assembly, the following procedures must be followed.
PRE-POSITION CRANKSHAFT: Crankshaft keyway must be positioned at 270° (45° BTDC) before installation of cylinder head. This insures that all pistons are below the top of the cylinder block deck surface which prevents interference of piston to valve.

Bolt Removal

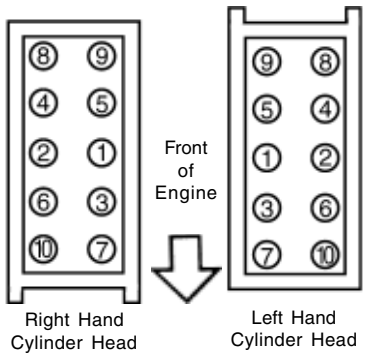


REMOVE HEAD BOLTS following sequence shown in illustration.

continued-

PREPARE BOLTS: Lubricate the underside of **every** bolt head with oil. Determine which bolts extend into the coolant passages. Those **entering** the coolant passages require pliable non-hardening sealer on the threads. Those bolts **not entering** the coolant passages require oil on the threads.

Bolt Assembly



IMPORTANT: Consult the latest OEM torque specifications as changes may have taken place since this printing.

TORQUE SPECIFICATIONS: Follow sequence shown in illustration, torque all **bolts** in the following steps:
Torque all bolts to 27-32 ft. lbs. (37-43 Nm.)
Rotate bolts 85-95°
Back out all bolts a minimum of one full turn (360°)
Torque all bolts to 27-32 ft. lbs. (37-43 Nm.)
Rotate bolts 85-95°
Finally, rotate all bolts an additional 85-95°.

TEST RUN ENGINE. Check all mating areas thoroughly to determine that all seals hold during operation.

© 2007 Federal-Mogul Corporation
Printed in U.S.A.
Form No. I-1679 (Rev. 05/12)

CUT TO 4 X 5.25

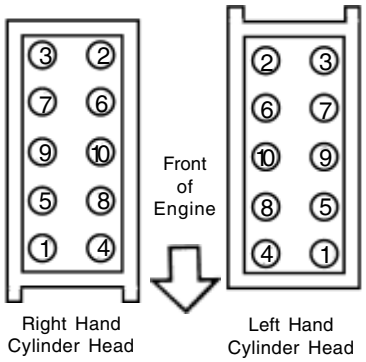
CUT TO 4 X 5.25

FEL-PRO INSTALLATION TIPS

HEAD BOLTS

IMPORTANT: In many cases the original equipment head bolts for this engine utilized a head bolt with a separate washer. The head bolts in this set are of most current design that utilize a washer flange integral to the bolt head. This design will replace the original head bolts and washer combination.
Consult the latest OEM torque specifications as changes may have taken place since this printing.
To assure proper engine re-assembly, the following procedures must be followed.
PRE-POSITION CRANKSHAFT: Crankshaft keyway must be positioned at 270° (45° BTDC) before installation of cylinder head. This insures that all pistons are below the top of the cylinder block deck surface which prevents interference of piston to valve.

Bolt Removal

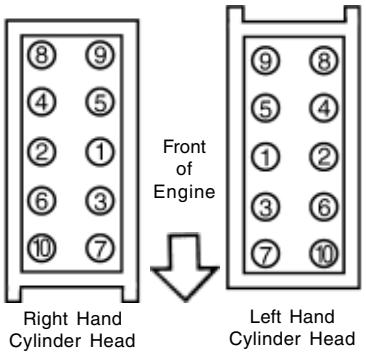


REMOVE HEAD BOLTS following sequence shown in illustration.

continued-

PREPARE BOLTS: Lubricate the underside of **every** bolt head with oil. Determine which bolts extend into the coolant passages. Those **entering** the coolant passages require pliable non-hardening sealer on the threads. Those bolts **not entering** the coolant passages require oil on the threads.

Bolt Assembly



IMPORTANT: Consult the latest OEM torque specifications as changes may have taken place since this printing.

TORQUE SPECIFICATIONS: Follow sequence shown in illustration, torque all **bolts** in the following steps:
Torque all bolts to 27-32 ft. lbs. (37-43 Nm.)
Rotate bolts 85-95°
Back out all bolts a minimum of one full turn (360°)
Torque all bolts to 27-32 ft. lbs. (37-43 Nm.)
Rotate bolts 85-95°
Finally, rotate all bolts an additional 85-95°.

TEST RUN ENGINE. Check all mating areas thoroughly to determine that all seals hold during operation.

 Printed in U.S.A.
Form No. I-1679 (Rev. 05/12)

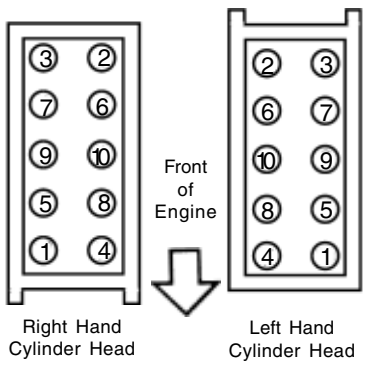
CUT TO 4 X 5.25

FEL-PRO INSTALLATION TIPS

HEAD BOLTS

IMPORTANT: In many cases the original equipment head bolts for this engine utilized a head bolt with a separate washer. The head bolts in this set are of most current design that utilize a washer flange integral to the bolt head. This design will replace the original head bolts and washer combination.
Consult the latest OEM torque specifications as changes may have taken place since this printing.
To assure proper engine re-assembly, the following procedures must be followed.
PRE-POSITION CRANKSHAFT: Crankshaft keyway must be positioned at 270° (45° BTDC) before installation of cylinder head. This insures that all pistons are below the top of the cylinder block deck surface which prevents interference of piston to valve.

Bolt Removal

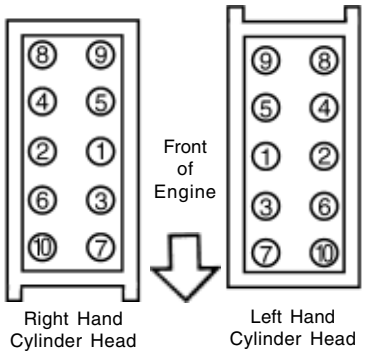


REMOVE HEAD BOLTS following sequence shown in illustration.

continued-

PREPARE BOLTS: Lubricate the underside of every bolt head with oil. Determine which bolts extend into the coolant passages. Those entering the coolant passages require pliable non-hardening sealer on the threads. Those bolts not entering the coolant passages require oil on the threads.

Bolt Assembly



IMPORTANT: Consult the latest OEM torque specifications as changes may have taken place since this printing.

TORQUE SPECIFICATIONS: Follow sequence shown in illustration, torque all bolts in the following steps:
Torque all bolts to 27-32 ft. lbs. (37-43 Nm.)
Rotate bolts 85-95°
Back out all bolts a minimum of one full turn (360°)
Torque all bolts to 27-32 ft. lbs. (37-43 Nm.)
Rotate bolts 85-95°
Finally, rotate all bolts an additional 85-95°.

TEST RUN ENGINE. Check all mating areas thoroughly to determine that all seals hold during operation.

© 2007 Federal-Mogul Corporation Printed in U.S.A.
Form No. I-1679 (Rev. 05/12)