

LESSON3_ HANDOUTS

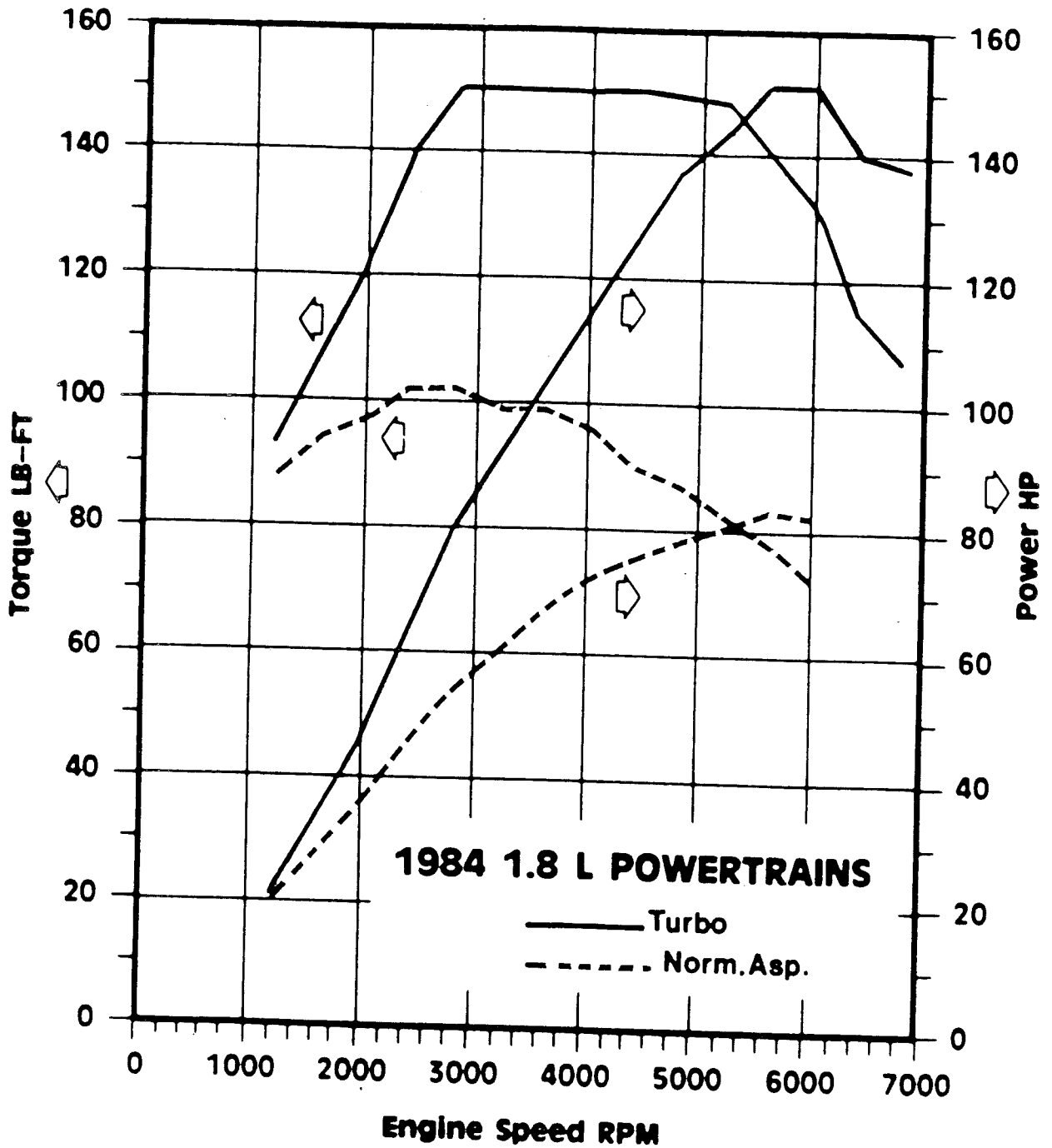


FIGURE 17-11. This chart shows the increase in power and torque when an engine is turbocharged. (Courtesy of General Motors Product Service Training)

EXAMPLE

6cylinder: Bore = 4 in, Stroke = 3 in

$$4 \text{ in} \times 4 \text{ in} \times 3 \text{ in} \times .7854 \times 6 = 226 \text{ cu in}$$

$$1 \text{ cu in} = 16.4 \text{ cc}$$

$$\frac{226 \text{ cu in}}{1} \times \frac{16.4 \text{ cc}}{1 \text{ cu in}} = 3706 \text{ cc} = 3700 \text{ cc}$$

$$1 \text{ liter} = 1000 \text{ cc}$$

$$\frac{3700 \text{ cc}}{1} \times \frac{1 \text{ liter}}{1000 \text{ cc}} = 3.7 \text{ liter}$$

ENGINE DISPLACEMENT = the cubic inch(cu in) or cubic centimeter (cc) of volume displaced or swept by all of the pistons.

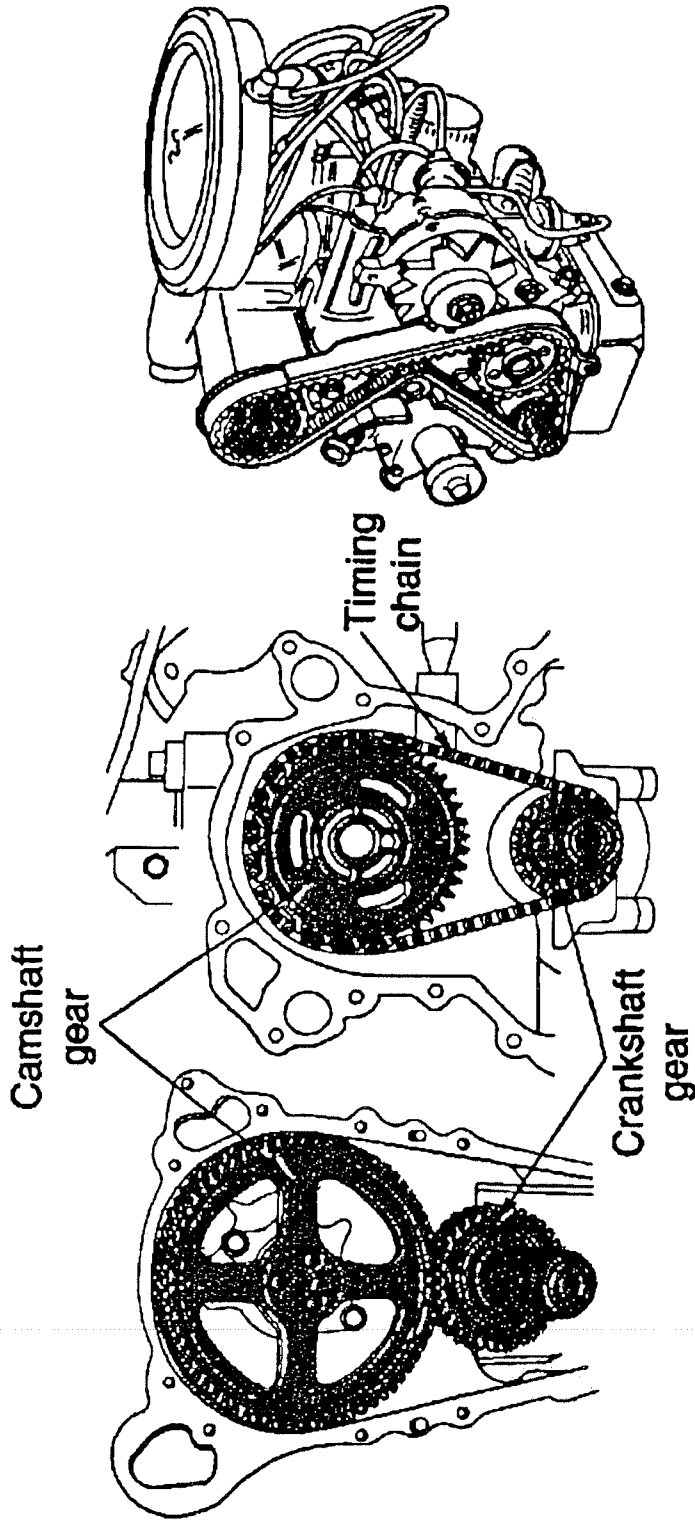
FORMULA

Volume of the cylinder x # of cylinders
Bore x Bore x Stroke x .7854 x # of cyl.

1 liter = 1000cc

1 liter = 61 cu in

1 cu in = 16.4 cc

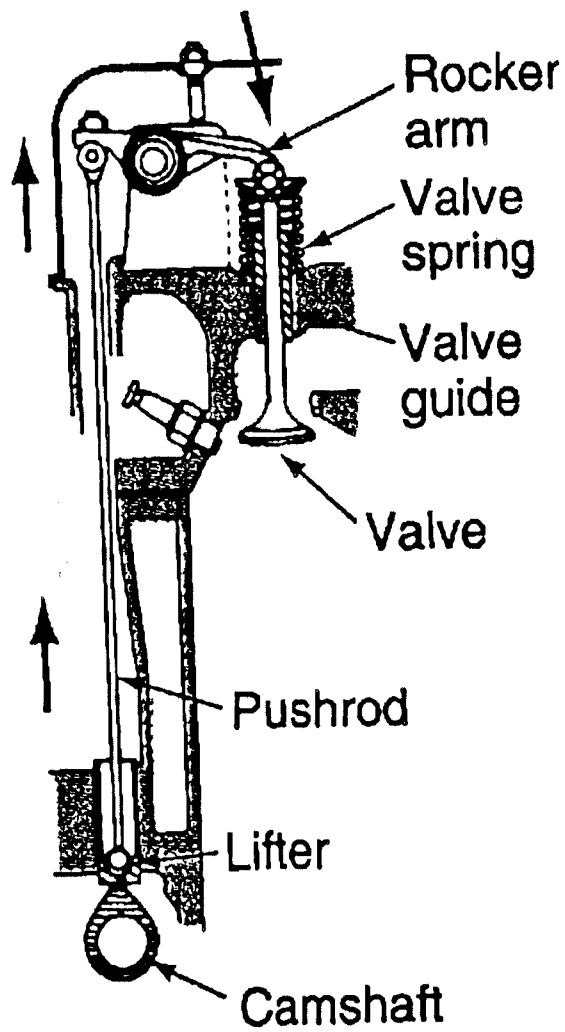


OHV engine with
gear driven camshaft

OHV engine with
timing chain and gears

OHC engine with
belt driven camshaft

Common valve drive train types include gear drive (A), chain drive (B), and belt drive (C).



The valve lifter transfers force to the pushrod.

AMS 107 (063)

Power Plant Types Group Assignment

Assignment: Each group will provide a 15 minute presentation on the type of power plant that has been chosen.

Content for each presentation should include the following:

Inventor

Year invented

Year the design went into production

Who or what manufacture's used this design, is it still used?

Pictures of the power plant: parts ID, applications, exploded views, can be from books, internet web site, and may include animations, nice to be in power point format

Explanation of how it works

Horsepower and torque capabilities

Advantages and disadvantages

Other items of interest about this power plant

A 1 page report should accompany this presentation which will include the names of the members of the group, group presenter's name, a list explaining contributions by each member and a list of sources for the information presented.