

## 22r & 22r-E

1. Start the engine and warm it up to normal operating temperature.
2. Turn the engine **OFF**. Remove the air cleaner and housing, along with the hot air and cold air intake ducts.

### CAUTION

Components will be hot. The engine head, block and radiator will be very hot.

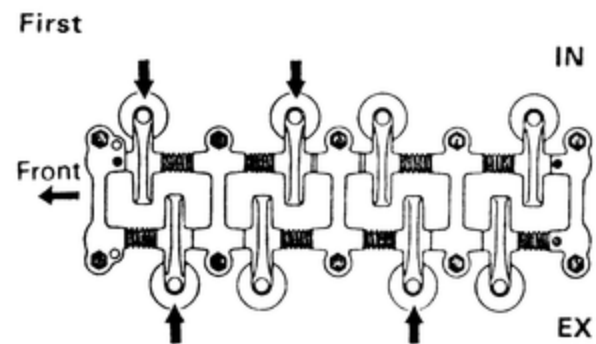
3. Remove any other hoses, cables, or wires attached to the valve cover. The valve cover (or cylinder head cover) is the domed steel item with the oil filler in it.
4. Remove the small nuts holding the valve cover, then lift the cover off. Retrieve the rubber gasket and put it aside; it can be reused if not damaged or crushed out of shape. Beware of hot oil dripping from the inside of the cover.
5. Use a large wrench on the crankshaft pulley bolt to turn the engine clockwise until the timing mark on the pulley to **0** on the scale. Turning the engine will be easier if the spark plugs are removed, but this is not required.

### CAUTION

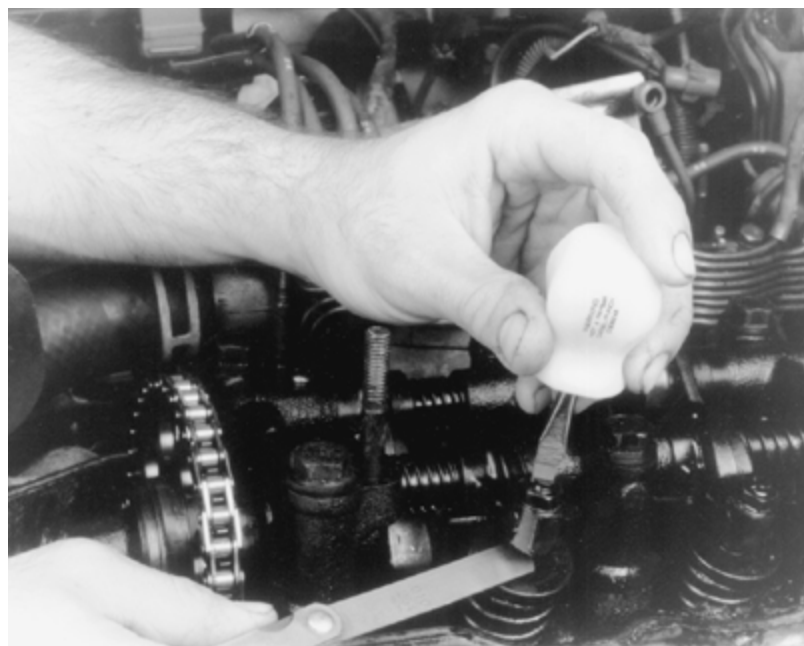
Do not attempt to align the engine by using the ignition switch to turn the engine. Doing will splash hot oil onto everything in the area, including you.

6. Check that the rockers on No.1 cylinder are loose and the rockers on No.4 are under tension. (No.1 is closest to the radiator; No. 4 is closest to the firewall.) If this is true, the engine is aligned with No.1 piston at top dead center. If it is not true, turn the engine one full revolution clockwise and realign the timing mark at zero; recheck the rockers.
7. Adjust the clearance 0.008 in. (0.20mm) intake and 0.012 in. (0.30mm) exhaust. Insert a feeler gauge and check for proper clearance between the top of the valve stem and the bottom of the rocker arm on the No. 1 intake valve. To adjust, loosen the locknut on the end of the rocker arm and turn the adjusting screw until the clearance is correct. Tighten the locknut and recheck the clearance; there should be a slight drag felt when the feeler gauge is pulled

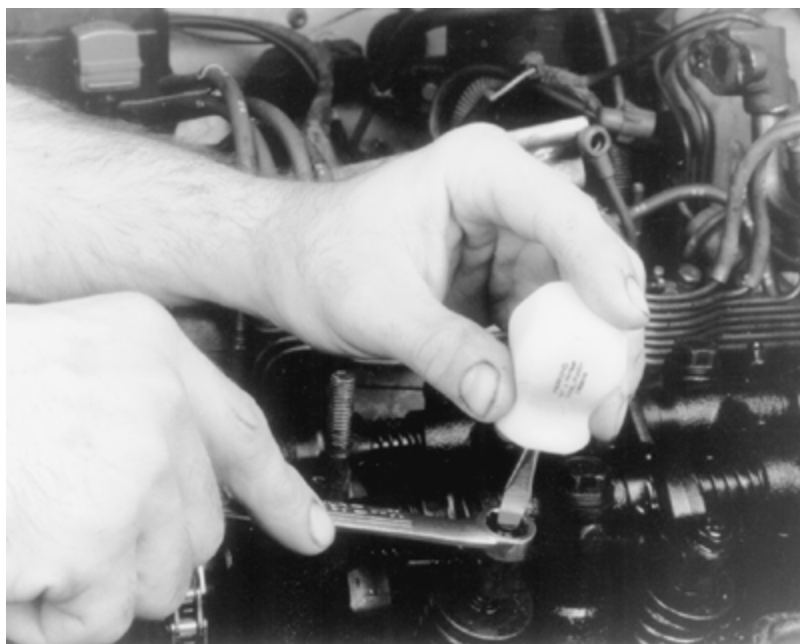
through the gap. Repeat the procedure for No 1 exhaust, No 2 intake and No. 3 exhaust.



**Adjust the clearance of half the valves, do the arrowed ones first**

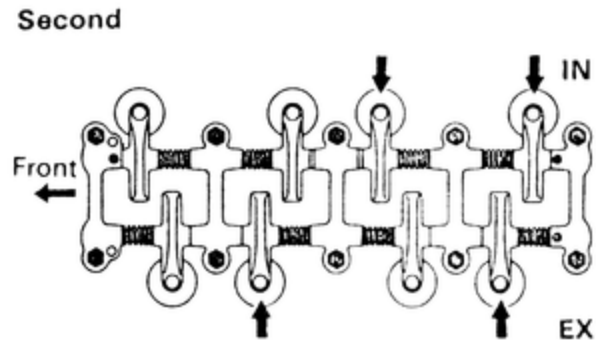


**Use a gauge to measure the distance between the stem and the rocker arm**



**Hold the adjusting screw in position, then tighten the locknut**

8. Turn the crankshaft pulley one full rotation clockwise until the marks align at **0** and for the remaining valves.



**Adjust the second set of valves the same as the first**

9. Clean the valve cover thoroughly with a lint-free rag. Wipe any oil off the cylinder head edges in the area of the valve cover gasket.
10. Fit the gasket into the valve cover, making sure it is not crimped or twisted. If the half-moon rubber plugs came out of the valve cover, clean them and apply sealant to the part of the plug contacting the valve cover; install the half-moon plug.

**The use of sealants on the valve cover gasket is not recommended.**

11. Install the valve cover onto the head. Make certain it is squarely seated and not pinching any adjacent wires or cables.
12. Install the valve cover retaining nuts. Tighten them to 43-60 inch lbs. (5-7 Nm) This is little more than finger-tight; over tightening will deform the cover and cause leaks.
13. Connect the lines, hoses and cables which were removed for access. Make certain electrical and ignition wires are firmly held by their clips or brackets.
14. Install the air cleaner with the hoses and duct work.
15. If still in place, remove the wrench and socket from the crankshaft pulley.