ROTARY CARB STUDY GUIDE

Name:_____ Model #_____ Serial # _____

Customer Problem: _____

PRELIMINARY CHECKS----------

1. ☐ Make a quick visual inspection of the machine:
   - ☐ Is the machine safe to operate?
     Missing or damaged guards/shields/throttle lockouts, loose saw chain, broken chain brake, etc.
   - ☐ Make visual inspection of fuel = is oil present?
2. ☐ Does the engine start easily and run?

   _____

   _____
3. ☐ Check for engine/equip. maintenance problems:
   - ☐ Dirt in the air filter housing
   - ☐ Operation of choke and throttle linkage

   _____

COMPRESSION----------

4. ☐ Check the cold engine compression: _____psi
   - ☐ Specs: _____min _____ max

     Keep pulling the starter rope until needle stops rising.

     _____

FUEL SYSTEM----------

5. ☐ Take a sample of the fuel mix:
   - ☐ Is the fuel mixed correctly?
   - ☐ Does the fuel smell stale?
   - ☐ Is there water in the fuel?
   - ☐ Test the ethanol content _____%

     Any concentration above 10% will cause problems.

     _____

     _____
6. ☐ Pull the fuel filter and check its condition.

   _____
7. ☐ Test the carburetor and fuel lines for leaks:
   - ☐ Pressure test fuel inlet line/carb to 10psi (.5 bar)
     If pressure is not held, hook up to carb inlet and retest.
   - ☐ Carb still holding 10psi, push the purge bulb
     The needle should drop and hold at 7psi (.5 bar). Continue to push the bulb until the gauge reads zero.
   - ☐ Switch tester to vacuum mode & push bulb
     The carb should hold up to 10"(.4 bar) vacuum
   - ☐ Hook pressure tester to purge outlet-push bulb
     The bulb should pump gauge up to 7psi (.5 bar) & hold it.

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     _____

FUEL SYSTEM----------

8. ☐ Pressure/Vacuum test of the remote tank vent:
   - ☐ Pump the tester on pressure mode
     The gauge needle should go up & hold 1½ - 5psi (.1-.3 bar)
   - ☐ Switch to the vacuum mode and test
     The vent should hold NO Vacuum.

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     _____
9. ☐ Vented Cap 1-way check valve test:
   - ☐ Hook pressure/vacuum tester to one tank line & block others
     The tank should hold NO vacuum.

     _____

     _____
10. ☐ Pressure test tank for leaks:
    Keep same line hook up as #9.
    - ☐ Switch tester to pressure = should hold 5psi

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      _____

IMPULSE TEST----------

11. ☐ Pull the carburetor and verify fuel pump pulse:
    - ☐ Put a few drops of oil in pulse hole & pull rope
      Oil should blow out of hole indicating a strong pulse.

      _____

      _____

      _____

CARBURETOR----------

12. ☐ Does the rotor turn freely?

    _____

    _____

    _____
13. ☐ Hold the throttle wide open:
    - ☐ Does the barrel valve line up with the bore?

      _____

      _____

      _____
14. ☐ Pull limiter caps if so equipped.

    _____

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ZAMA CARBURETOR REPAIR----------

15. ☐ Remove four purge retainers screws:
    - ☐ Check condition of purge bulb.
16. ☐ Remove center screw & remove purge pump:
    - ☐ Did carb fail purge pressure test? (see #7)
      If yes, pump will have to be cleaned or replaced.

_____

17. ☐ Remove fuel pump diaphragm & gasket:
    - ☐ What is the condition of the pump diaphragm?
      Are the flapper valves laying flat?
    - ☐ Are there signs of corrosion or rust inside?
      If yes, carb may have to be replaced.

_____

18. ☐ Remove high speed mixture screw & plug:
19. ☐ Remove carb inlet screen:
20. ☐ Remove metering diaphragm cover & diaphragm:
    - ☐ Are there signs of corrosion or rust inside?
      If yes, carb may have to be replaced.
    - ☐ Check condition of metering diaphragm.
      Replace if wrinkled or stiff.

_____

21. ☐ Remove inlet needle & lever assembly:
    - ☐ Did carb pass inlet pressure test? (see #7)
      If no, clean, repair or replace inlet needle to correct.

_____

22. ☐ Pull rotor assembly *(DO NOT LOSE cam roller)*:
23. ☐ CLEAN CARBURETOR *(Ultrasonic cleaner preferred)*:

*Parts Needed:*_____

_____

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24. ☐ Install rotor assembly *(Make sure cam roller is in place)*:
25. ☐ Install inlet needle & lever assembly:
    - ☐ Adjust lever height with "Z" gauge *(0 -.3mm gap)*
26. ☐ Install metering diaphragm, gasket & cover.
    Always mount the gasket first & the diaphragm on top.
27. ☐ Install new or cleaned carb inlet screen:
28. ☐ Install high speed mixture screw & plug:
    Lightly seat needle & pre-set per carb bulletin.
29. ☐ Install fuel pump diaphragm & gasket:
    The fuel pump diaphragm must lie on the carb body.
30. ☐ Install the purge pump, purge bulb & retainer.
    Don't forget shorter screw in the center of the purge body.
31. ☐ Bench test carb before installing on eng. (see #7):
32. ☐ Test run engine & adjust carb per service bulletin:
    Install NEW limiter caps if so equipped.

WALBRO CARBURETOR REPAIR----------

33. ☐ Remove the four carb assembly screws:
    - ☐ Check condition of purge bulb.
34. ☐ Remove purge pump:
    - ☐ Did carb fail purge pressure test? (see #7)
      If yes, the purge check valve is a likely cause.

_____

35. ☐ Remove metering diaphragm & gasket:
    - ☐ Are there signs of corrosion or rust inside?
      If yes, carb may have to be replaced.
    - ☐ Check condition of metering diaphragm.
      Replace if wrinkled or stiff.

_____

36. ☐ Remove inlet needle & lever assembly:
    - ☐ Did carb pass inlet pressure test? (see #7)
      If no, clean, repair or replace inlet needle to correct.

_____

37. ☐ Remove the fuel pump body:
    - ☐ Remove the fuel pump diaphragm & gasket.
    - ☐ What is the condition of the pump diaphragm?
      Are the flapper valves laying flat?

_____

38. ☐ Remove inlet filter screen from the pump body:
    Note: Fuel comes in from under this screen.
39. ☐ Remove high speed mixture screw or fixed jet:
40. ☐ Pull rotor assembly:
41. ☐ CLEAN CARBURETOR *(Ultrasonic cleaner preferred)*:

*Parts Needed:*_____

_____

_____

_____

_____

42. ☐ Install rotor assembly:
43. ☐ Install high speed mixture screw or fixed jet:
    Lightly seat needle & pre-set per carb bulletin.
44. ☐ Install new inlet filter screen into the pump body:
45. ☐ Install inlet needle & lever assembly in pump body:
    - ☐ Adjust lever height with "W" gauge.
46. ☐ Install fuel pump gasket & diaphragm:
    The fuel pump diaphragm must lie on the pump body.
47. ☐ Install the pump body assembly on the carb body:
    Pump diaphragm & gasket should be sandwiched between.
48. ☐ Install metering diaphragm & gasket:
    Always mount the gasket first & the diaphragm on top.
49. ☐ Install the purge body & check valve assembly:
50. ☐ Install the purge bulb, retainer & screws:
51. ☐ Bench test carb before installing on engine (see #7):
52. ☐ Test run engine & adjust carb per service bulletin:
    Install NEW limiter caps if so equipped.

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