MARINER OUTBOARDS

MERCURY OUTBOARDS

service bulletin

No. 94-9

SPORT JET 90 INFORMATION UPDATE

1993-1994 Sport Jet 90
S/N 0E009675 thru 0E095087

The following represents the most common customer and/or dealer problems and solutions on 1993-1994 Sport Jets.

Starter Motor
Spark Plug Fouling
Stator
Rev Limiter
Hard Starting
Vibration/Reverse Gate Adjustment
Oil Injection System

STARTER MOTOR

Starter motors were failing because of water splashing on the starter. Boat manufacturers have helped by sealing the engine compartment.

The starter motor pinion shafts are dry and corroded. Periodically lubricate the shaft with a silicone spray lubricant.

Armatures were shorted from overheating because of prolonged periods of cranking. Cranking periods longer than 10 seconds without a 30 second cooling period may cause the armature to overheat and lead to premature failure.

The starter pinion would engage then quickly disengage the flywheel. This condition was resolved by a starter containing stronger magnets. The part number for the new starter is 819968-1. This starter was first used in the Sport Jets at serial number 0E066991.

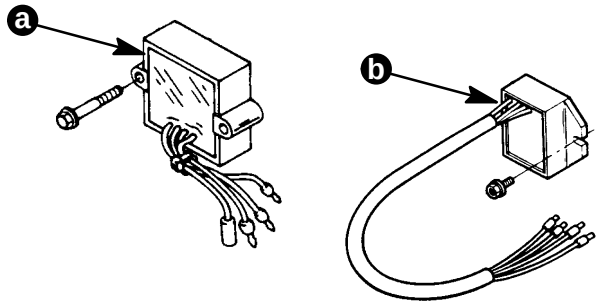
The pinion spring retainers were breaking. This problem was corrected in early 1994 model year Sport Jets.

SPARK PLUG FOULING

On Sport Jets with plug fouling problems, replace the spark plugs with Champion L77JC4 spark plugs part number 33-821C. Gap the spark plug to 0.035 in. (0.889 mm).

STATOR

The voltage regulator has been identified as the cause of stator failures. New, higher capacity voltage regulators, listed below, have resolved stator failures. Sport Jets with serial numbers above 0E066619 have the latest regulators.



a - New Regulator
b - Old Regulator

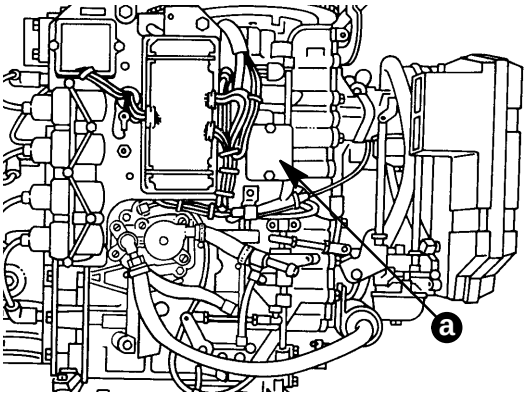
Should a stator failure occur between serial numbers 0E009675 and 0E066619 replace the stator (p/n 8778A29) and the voltage regulator. The proper voltage regulator is listed below:

S/N 0E009675 thru 0E033710
Use regulator p/n 815279T 3
(Ring style terminals)

S/N 0E033711 thru 0E066619
Use regulator p/n 815279T 5
(Bullet connector style terminals)

REV LIMITER

Faulty rev limiters can completely kill the ignition system, drop cylinders at a lower rpm, or allow engine to over rev. The rev limiter is designed to randomly drop cylinders so that the engine will not exceed 5800 rpm.



a - Rev Limiter

To isolate the rev limiter from the ignition system, disconnect the black/yellow lead from the rev limiter. Run the engine. If the problem is eliminated, the rev limiter is defective. The rev limiter p/n is 821889A18.

THE FOLLOWING ITEMS ARE ADVISORY AND NOT SUBJECT TO WARRANTY CONSIDERATION.

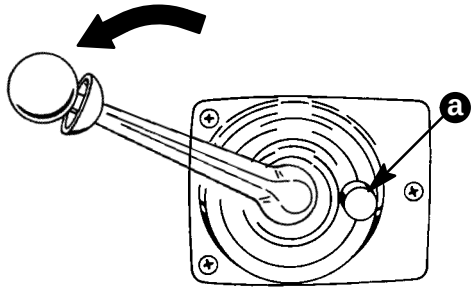
HARD STARTING

Many of the hard starting complaints have been attributed to the customer not using the proper starting procedures. The following are the procedures for starting cold, warm, and flooded engines.

COLD ENGINE

NOTE: The 1993 and 1994 Sport Jet 90 Models utilized the electric choke system for cold starting the engine. It should be emphasized to the customer that the choke system is actuated only when the ignition key is depressed.

1. Run blower per Operation & Maintenance Manual.
2. Connect lanyard.
3. Pull knob (a) out for “throttle only” detent.
4. Advance throttle lever in Neutral until it stops.



a - Knob

5. Push key in to actuate the choke and continue to hold the key in while cranking.
6. Once engine starts, release the key. If engine begins to audibly lose RPM, quickly engage and disengage the choke. This will provide necessary fuel to sustain the engine thru the warm-up period.

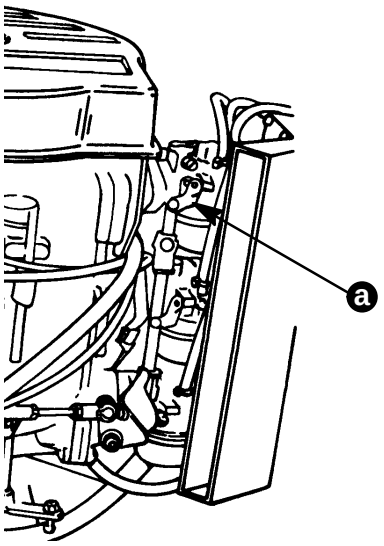
WARM ENGINE

1. Run blower per Operation & Maintenance Manual.
2. Connect lanyard.
3. Advance throttle lever in Neutral until it stops.
4. Crank engine – DO NOT PUSH IN KEY TO ACTUATE CHOKE.

STARTING A FLOODED ENGINE

1. Run blower, per Operation & Maintenance Manual.
2. Connect lanyard.
3. Advance throttle lever in Neutral until it stops.

4. Lift engine hatch.
5. Hold throttle arm of top carburetor at W.O.T. position.

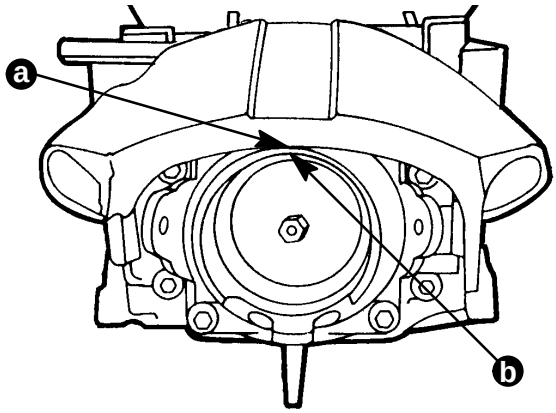


a - Throttle Arm, Top Carburetor

6. Crank engine – DO NOT PUSH IN KEY TO ACTUATE CHOKE.
7. As soon as engine starts, immediately release throttle arm of top carburetor.

SEVERE VIBRATION/REVERSE GATE ADJUSTMENT

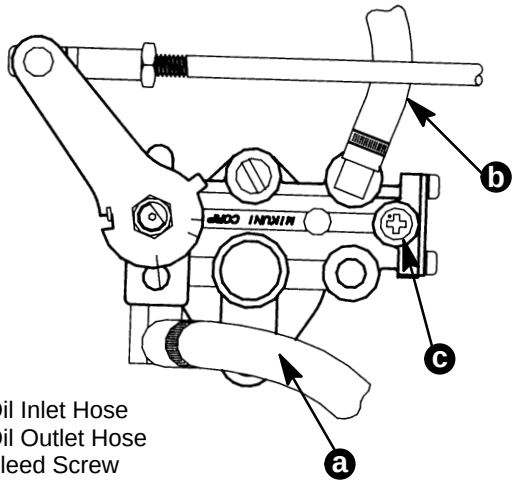
There is some normal vibration from idle up to planing speeds. Severe vibration, at all speeds, was found to be the result of the reverse gate interfering with the rudder water flow. The reverse gate must be adjusted so that in full forward position, the reverse gate bottom edge (a) clears the rudder opening (b).



a - Reverse Gate Bottom Edge
b - Rudder Opening

An improperly adjusted reverse gate will also result in loss of performance and/or a reverse gate forward stop failure. Refer to Service Manual 90-824724 for complete instructions on adjusting the reverse gate.

OIL INJECTION SYSTEM



a - Oil Inlet Hose
b - Oil Outlet Hose
c - Bleed Screw

Powerhead failures can be caused by failure to bleed air from the oil lines. Check the oil line (a) from the reservoir to the oil pump. There should be no air in the line. If air is present, loosen bleed screw (c) and bleed air out until oil is present. Tighten bleed screw. The oil injection system is now operational.

Inspect the oil lines (a and b) for any kinks or sharp bends. Correct as necessary.

Check that all oil line connections are secured with sta-straps or clamps.

Warranty

Submit warranty claim(s) as required per normal warranty procedures and guidelines.