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ENGINE

The following chart is provided to help in diagnosing the probable source of troubles. It should be used as a guideline. Some causes or corrections may not apply to a specific model.

SYMPTOM	ENGINE BACKFIRES.
CONDITION	NORMAL USE.
Test/Inspection	1. Check spark plugs. a. Carbon accumulation caused by defective spark plug(s). <i>Clean carbon accumulation and replace spark plugs.</i>
	2. Check ignition timing. a. Timing is too advanced. <i>Set timing according to specifications (refer to TECHNICAL DATA 10).</i>
	3. Check carburetor. a. Fuel passages obstructed. <i>Clean carburetor and install new filter(s).</i> b. Fuel level too low. <i>Adjust float level according to specifications.</i>
	4. Check cooling system. a. Low antifreeze level. <i>Adjust antifreeze level. Then check clamps or hoses.</i> b. Defective tank cap. <i>Replace cap.</i> c. Air in system. <i>Bleed system.</i>

SYMPTOM	ENGINE SUDDENLY TURNS OFF AT HIGH RPM AND/OR WITH LIGHT LOAD.
CONDITION	NORMAL USE.
Test/Inspection	1. Check that all ground wires are well connected.

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Subsection 02 (ENGINE)

SYMPTOM	ENGINE SUDDENLY TURNS OFF.
CONDITION	NORMAL USE.
Test/Inspection	1. Perform engine leak test. Refer to ENGINE LEAK VERIFICATION FLOW CHART. Check possible piston seizure. a. Damaged gasket and/or seal. <i>Replace defective parts.</i>
	2. "Four-corner" seizure of piston(s). a. Accelerating too fast when engine is cold. Piston expands faster than cylinder. <i>Replace piston(s). Ask driver to refer to warm-up procedure in Operator's Guide.</i>
	3. Piston(s) seizure on exhaust side (color on piston dome is correct). a. Kinked fuel tank vent tube. <i>Relocate fuel tank vent tube.</i> b. Leaks at fuel line connections or damaged fuel lines. <i>Replace defective lines.</i> c. Fuel does not flow through carburetor(s) (foreign particles in needle area and/or varnish formation in carburetor(s)). <i>Clean carburetor(s) and install new filter(s).</i> d. Spark plug heat range is too warm. <i>Install spark plugs with appropriate heat range (refer to TECHNICAL DATA 10).</i> e. Improper ignition timing. <i>Adjust according to specifications (refer to TECHNICAL DATA 10).</i> f. Restriction in exhaust system. <i>Replace.</i> g. Compression ratio is too high. <i>Install genuine parts.</i> h. Carburetor calibration is too lean. <i>Adjust according to specifications (refer to TECHNICAL DATA 10).</i> i. Improper reed valve adjustment or damage. <i>Adjust according to specifications (refer to 493, 593 AND 693 ENGINES TYPES 04-02) and/or install Bombardier's recommended reed valve.</i> j. Poor oil quality. <i>Use BOMBARDIER-ROTAX oil.</i> k. Leaks at air intake silencer. <i>Replace air intake silencer grommets.</i>
	4. Melted and/or perforated piston dome; melted section at ring end gap. a. When piston reaches TDC, mixture is ignited by heated areas in combustion chamber. This situation is due to an incomplete combustion of a poor oil quality. <i>Clean residue accumulation in combustion chamber and replace piston(s). Use BOMBARDIER-ROTAX injection oil.</i> b. Spark plug heat range is too high. <i>Install recommended spark plugs (refer to TECHNICAL DATA 10).</i> c. Ignition timing is too advanced. <i>Adjust according to specifications (refer to TECHNICAL DATA 10).</i> d. Inadequate fuel quality. <i>Use appropriate fuel.</i> e. Carburetion is too lean. <i>Adjust according to specifications (refer to TECHNICAL DATA 10).</i>

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Subsection 02 (ENGINE)

	<p>5. Seized piston all around the circumference (dry surface).</p> <p>a. Lack of oil, damaged oil line or defective injection pump. <i>Replace defective part(s).</i></p>
	<p>6. Grooves on intake side of piston only.</p> <p>a. Oil film eliminated by water (snow infiltration in engine). <i>Replace piston(s) and check if intake system leaks.</i></p>
	<p>7. Piston color is dark due to seizure on intake and exhaust sides.</p> <p>a. Cooling system leaks and lowers coolant level. <i>Tighten clamps or replace defective parts. Add antifreeze in cooling system until appropriate level is reached.</i></p> <p>b. Accumulation of foreign particles in needle and/or main jet area. <i>Clean carburetor(s).</i></p>
	<p>8. Cracked or broken piston(s).</p> <p>a. Cracked or broken piston(s) due to excessive piston/cylinder clearance or engine overrevving. <i>Replace piston(s). Check piston/cylinder clearance (refer to TECHNICAL DATA 10). Adjust drive pulley according to specifications (refer to TECHNICAL DATA 10) and/or clean pulley sheaves if they are contaminated with greasy particles.</i></p>
	<p>9. DPM manifold air vent is obstructed.</p> <p>a. Carburetion is too lean. <i>Ensure proper air vent.</i></p>

SYMPTOM	PISTON RING AND CYLINDER SURFACES ARE GROOVED.
CONDITION	NORMAL USE.
Test/Inspection	<p>1. Check oil quality.</p> <p>a. Poor oil quality. <i>Use BOMBARDIER-ROTAX injection oil.</i></p>
	<p>2. Check injection pump and its hoses.</p> <p>a. Inadequate injection pump adjustment and/or defective hoses. <i>Adjust pump according to specifications (refer to ENGINE 04) and/or replace hoses.</i></p>

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Subsection 02 (ENGINE)

SYMPTOM	ENGINE DOES NOT OFFER MAXIMUM POWER AND/OR DOES NOT REACH MAXIMUM OPERATING RPM.
CONDITION	NORMAL USE.
Test/Inspection	1. Check spark plug condition. a. Fouled spark plugs. <i>Replace.</i>
	2. Check if there is water in fuel. a. There is water in fuel. <i>Drain fuel system, then fill it with appropriate fuel.</i>
	3. Check items listed in ENGINE RUNS OUT OF FUEL (refer to fuel and oil system subsection 03).
	4. Check carburetor adjustments and cleanliness. a. Inadequate carburetor adjustments or dirt accumulation. <i>Adjust according to specifications (refer to TECHNICAL DATA 10) or clean.</i>
	5. Check drive belt. a. Worn belt. <i>Replace belt if width is 3 mm (1/8") less than nominal dimension (refer to TECHNICAL DATA 10).</i>
	6. Check track adjustment. a. Too much tension and/or improper alignment. <i>Align track and adjust its tension to specifications (refer to TECHNICAL DATA 10).</i>
	7. Check drive pulley. a. Improper calibration screw adjustments (TRA pulley) and/or worn bushing(s). <i>Adjust according to specifications (refer to TECHNICAL DATA 10) and/or replace bushing(s).</i>
	8. Check driven pulley. a. Worn bushing and/or spring tension. <i>Replace spring and/or adjust its tension according to specifications (refer to TECHNICAL DATA 10).</i>
	9. Check exhaust system. a. Restriction or exhaust system leaks. <i>Replace or reseal with Ultra Copper.</i>
	10. Check ignition timing. a. Decrease in power due to retarded ignition. <i>Adjust according to specifications (refer to TECHNICAL DATA 10).</i>
	11. Check engine compression. a. Worn piston(s) and ring(s). <i>Replace (refer to TECHNICAL DATA 10 for specifications).</i>
	12. Check engine cooling system. a. Antifreeze level is low, cap fails to pressurize system or air circulates through lines. <i>Adjust level, replace cap or bleed cooling system.</i>
	13. Check reed valve. a. Improper tightness and/or opening. <i>Replace or adjust. Refer to proper engine subsection.</i>

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Subsection 02 (ENGINE)

SYMPTOM	ENGINE DETONATION AT MAXIMUM RPM.
CONDITION	NORMAL USE.
Test/Inspection	1. Check which type of fuel is used. a. Octane number is too low and/or alcohol level is too high. <i>Use recommended fuel type.</i>
	2. Check spark plug type. a. Improper spark plug heat range. <i>Install recommended spark plugs (refer to TECHNICAL DATA 10).</i>
	3. Check exhaust system. a. Too much restriction. <i>Replace.</i>
	4. Check ignition timing. a. Timing is too advanced. <i>Adjust according to specifications (refer to TECHNICAL DATA 10).</i>
	5. Check carburetion. a. Fouled and/or improper carburetor components. <i>Clean or replace according to specifications (refer to TECHNICAL DATA 10).</i>
	6. Check compression ratio and combustion chamber volume. a. Compression ratio is too high. <i>Install genuine parts.</i>

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Subsection 02 (ENGINE)

SYMPTOM	ENGINE TURNS OVER BUT FAILS TO START.
CONDITION	NORMAL USE.
Test/Inspection	1. Check switches. a. Ignition switch, emergency cut-out switch or tether switch is in the OFF position. <i>Place all switches in the RUN or ON position. If it still does not work, connect DESS switch BK/GN and BK/WH wires together (harness side).</i>
	2. Check fuel valve. a. fully open fuel valve.
	3. Check fuel level. a. Mixture not rich enough to start cold engine. <i>Check fuel tank level and use choke.</i>
	4. Check spark plug. a. Defective spark plug (no spark). <i>Replace spark plugs.</i>
	5. Check amount of fuel on spark plug. a. Flooded engine (spark plug wet when removed). <i>Do not overprime or overchoke. Remove wet spark plugs, turn ignition switch to OFF and crank engine several times. Install clean dry spark plugs. Start engine following usual starting procedure.</i>
	6. Check fuel lines. a. No fuel to the engine (spark plugs dry when removed). <i>Check fuel tank level; turn fuel valve on if applicable; check fuel filter, replace if clogged; check condition of fuel and impulse lines and their connections.</i>
	7. Check engine compression. a. Insufficient engine compression. <i>Replace defective part(s) (ex.: piston(s), ring(s), etc.).</i>

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Subsection 02 (ENGINE)

SYMPTOM	IRREGULAR ENGINE IDLE.
CONDITION	NORMAL USE AFTER ENGINE WARM UP.
Test/Inspection	1. Check choke. a. Choke plunger may be partially opened. <i>Readjust.</i>
	2. Check carburetor adapter. a. Air enters through a crack. <i>Replace.</i>
	3. Check air screw position. a. Inadequate fuel/air mixture. <i>Adjust according to specifications (refer to TECHNICAL DATA 10).</i>
	4. Check ignition system trigger coil air gap. a. Air gap is too large. <i>Adjust according to specifications (refer to TECHNICAL DATA 10).</i>
	5. Check dimension of pilot jet. a. Inadequate fuel/air mixture. <i>Adjust according to specifications (refer to TECHNICAL DATA 10).</i>
	6. Check reed valve. a. Improper tightness and/or opening. <i>Replace or adjust. Refer to proper engine subsection.</i>
	7. Perform engine leak test. a. Leaking gaskets allow air to enter in engine. <i>Replace defective parts.</i>
	8. DPM manifold air vent is obstructed. a. Carburetion is too lean. <i>Ensure proper air vent.</i>

Section 03 TROUBLESHOOTING

Subsection 02 (ENGINE)

SYMPTOM	HIGH ENGINE OPERATING TEMPERATURE.
CONDITION	NORMAL USE.
Test/Inspection	1. Check temperature gauge sensor. a. False reading. <i>Check terminal connections. If problem still persists, replace sensor.</i>
	2. Verify antifreeze level and check if there is air infiltration in the system or if there are leaks in gasket areas. a. Low antifreeze level or air in system. <i>Add antifreeze until recommended level is reached, bleed system and/or tighten clamps at fitting.</i>
	3. Check if antifreeze flows through system properly. a. Foreign particles and/or broken coolant pump impeller. <i>Clean cooling system and/or replace coolant pump impeller.</i>
	4. Check antifreeze concentration. a. Antifreeze concentration is too high. <i>Adjust concentration according to Bombardier's recommendations.</i>
	5. Check thermostat. a. Thermostat reacts slowly or not at all. <i>Replace.</i>
	6. Check tank cap. a. Cap does not hold pressure. <i>Replace.</i>
	7. Check carburetion. a. Improperly adjusted or inadequate carburetor components. <i>Adjust according to specifications (refer to TECHNICAL DATA 10) or replace inadequate component(s).</i>
	8. Check cylinder head gaskets. a. Worn gaskets. <i>Replace.</i>
	9. Check ignition timing. a. Ignition timing is too advanced. <i>Adjust according to specifications (refer to TECHNICAL DATA 10).</i>
	10. Check if there are leaks at air intake silencer and/or engine crankcase. a. Leak(s). <i>Repair or replace.</i>
	11. Check condition and heat range of spark plugs. a. Melted spark plug tip or inadequate heat range. <i>Replace.</i>

Section 03 TROUBLESHOOTING

Subsection 02 (ENGINE)

SYMPTOM	ENGINE EQUIPPED WITH RAVE VALVE DOES NOT REACH ITS FULL OPERATING RPM (500 TO 1000 RPM SLOWER).
CONDITION	NORMAL USE.
Test/Inspection	<p>1. Check RAVE valve pistons.</p> <p>a. Valve piston(s) is (are) too far out. <i>Screw valve piston(s) to bottom.</i></p>
	<p>2. Check RAVE valve stems.</p> <p>a. Bent RAVE valve stem(s). <i>Replace.</i></p>
	<p>3. Check RAVE valves.</p> <p>a. Jammed valve(s). <i>Clean.</i></p>
	<p>4. Check tension of RAVE springs.</p> <p>a. Inadequate spring tension. <i>Replace.</i></p>
	<p>5. Check RAVE pressure holes.</p> <p>a. Clogged holes. <i>Clean.</i></p>
	<p>6. Check clamps or sleeves.</p> <p>a. Damaged clamp(s) or sleeve(s). <i>Replace.</i></p>
	<p>7. Check exhaust tightness.</p> <p>a. Exhaust system is leaking leading to a too low back pressure. <i>Replaces parts and reseal.</i></p>

SYMPTOM	ENGINE EQUIPPED WITH RAVE. ENGINE HESITATES AT MID-SPEED AND REACHES MAXIMUM PERFORMANCE ONLY AFTER A WHILE.
CONDITION	NORMAL USE.
Test/Inspection	<p>1. Check RAVE valve spring(s).</p> <p>a. Spring tension is too weak or spring(s) is (are) broken. <i>Replace.</i></p>
	<p>2. Check RAVE valve cover red adjustment screws.</p> <p>a. Adjustment screw(s) is (are) too loose. <i>Adjust according to ASSEMBLY PROCEDURE in appropriate engine subsections.</i></p>
	<p>3. Check RAVE valve movement (RAVE movement indicator P/N 861 7258 00).</p> <p>a. Valve(s) is (are) stuck in open position. <i>Clean.</i></p>

SYMPTOM	REWIND STARTER ROPE DOES NOT REWIND.
CONDITION	NORMAL USE.
Test/Inspection	<p>1. Check rewind spring.</p> <p>a. Broken spring. <i>Replace spring.</i></p>

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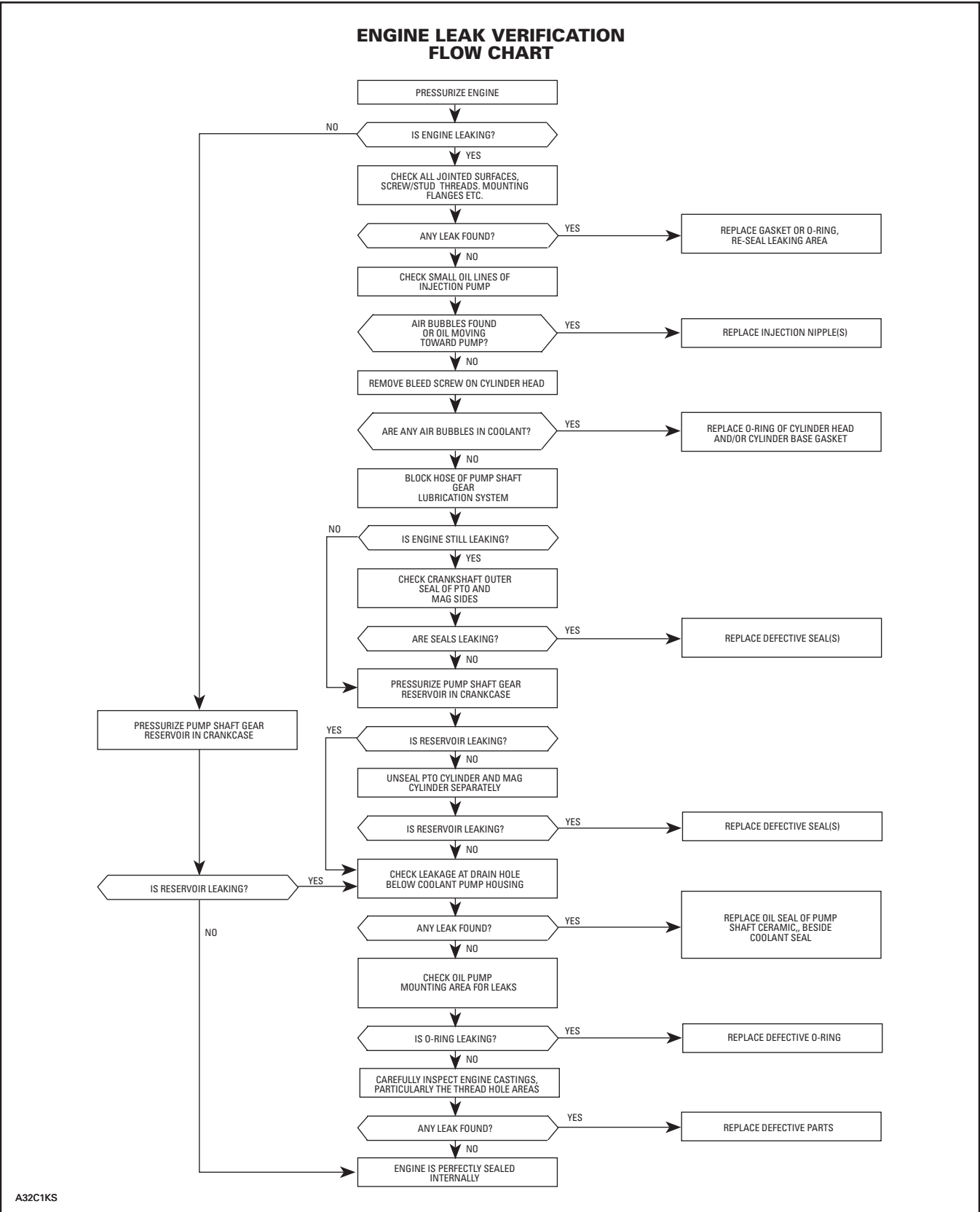
Subsection 02 (ENGINE)

SYMPTOM	REWIND STARTER PAWL DOES NOT ENGAGE.
CONDITION	NORMAL USE.
Test/Inspection	1. Check stopper spring. a. Broken stopper spring. <i>Replace.</i>
	2. Check pawl and pawl lock. a. Pawl and pawl lock have stuck together because of heat. <i>Replace.</i>
	3. Check pawl and rope sheave. a. Pawl and rope sheave have stuck together because of heat. <i>Replace.</i>

SYMPTOM	ENGINE PINGING.
CONDITION	NORMAL USE.
Test/Inspection	1. Check fuel lines. a. Bent fuel lines (preventing fuel from flowing through). <i>Relocate or replace fuel lines.</i>
	2. Check if carburetor(s) is (are) clean. a. Dirt prevents fuel from flowing through. <i>Clean.</i>
	3. Check ignition timing. a. Timing is too advanced. <i>Adjust according to specifications (refer to TECHNICAL DATA 10).</i>
	4. Check compression ratio. a. Compression ratio is too high. <i>Replace inadequate part(s) to obtain manufacturer's recommended compression ratio or use a higher grade fuel.</i>

SYMPTOM	ENGINE GENERATES A LOT OF VIBRATIONS.
CONDITION	NORMAL USE.
Test/Inspection	1. Check engine supports and stopper. a. Loose and/or broken supports or interference between support(s) and chassis. <i>Retighten to specification (refer to TECHNICAL DATA 10) or replace.</i>
	2. Check drive pulley (refer to: vibrations coming from drive pulley).
	3. Check carburetor synchronization. a. Throttle slide heights are adjusted differently and/or throttle slide openings are unsynchronized. <i>Adjust throttle slide heights and throttle cable.</i>

ENGINE LEAK VERIFICATION FLOW CHART



A32C1KS

FUEL AND OIL SYSTEMS

The following chart is provided to help in diagnosing the probable source of troubles. It should be used as a guideline. Some causes or corrections may not apply to a specific model.

SYMPTOM	HIGH FUEL CONSUMPTION OR RICH MIXTURE.
CONDITION	NORMAL USE.
Test/Inspection	<p>1. Check fuel tank.</p> <p>a. Perforated fuel tank. <i>Replace fuel tank.</i></p>
	<p>2. Check fuel pump reservoir and carburetor fittings.</p> <p>a. Leaking fittings. <i>Replace defective part.</i></p>
	<p>3. Check choke adjustment.</p> <p>a. Fuel flows through choke circuit while engine runs. <i>Readjust choke.</i></p>
	<p>4. Check float height in carburetor(s).</p> <p>a. Fuel level is too high in float bowl(s). <i>Adjust according to specifications (refer to TECHNICAL DATA 10).</i></p>
	<p>5. Check needle valve.</p> <p>a. Foreign particles prevent needle valve(s) from closing and/or worn seating area. <i>Clean or replace needle valve(s), then clean seating area.</i></p>

SYMPTOM	FUEL LEAKS IN ENGINE BASE WHEN ENGINE IS STOPPED.
CONDITION	NORMAL USE.
Test/Inspection	<p>1. Check items 3, 4 and 5 of HIGH FUEL CONSUMPTION.</p>
	<p>2. Check fuel pump diaphragm.</p> <p>a. Cracked diaphragm. <i>Replace.</i></p>

Section 03 TROUBLESHOOTING

Subsection 03 (FUEL AND OIL SYSTEMS)

SYMPTOM	ENGINE LACKS POWER OR STALLS AT HIGH RPM.
CONDITION	NORMAL USE.
Test/Inspection	1. Check fuel tank vent hose. a. Kinked or clogged hose. <i>Relocate or replace.</i>
	2. Check fuel filter. a. Clogged filter. <i>Replace.</i>
	3. Check fuel lines. a. Kinked or clogged lines. <i>Relocate or replace.</i>
	4. Check fuel pump flow. a. Dried diaphragm. <i>Replace.</i>
	5. Check if carburetor(s) is (are) clean. a. Varnish. <i>Clean.</i>

SYMPTOM	HIGH INJECTION OIL CONSUMPTION.
CONDITION	NORMAL USE.
Test/Inspection	1. Check oil injection pump adjustment. a. Oil injection pump adjusted too rich. <i>Adjust.</i>
	2. Check injection pump identification. a. Wrong pump installed. <i>Replace with the appropriate pump. Refer to OIL INJECTION SYSTEM 04-05.</i>
	3. Check injection oil lines and their fitting. a. Leaking lines and/or cover. <i>Replace defective part(s).</i>
	4. Check injection pump cover gasket. a. Worn gasket. <i>Replace.</i>
	5. Pressurize crankcase rotary valve gear reservoir. a. Leaking gasket(s). <i>Replace gasket(s).</i>

Section 03 TROUBLESHOOTING
Subsection 03 (FUEL AND OIL SYSTEMS)

SYMPTOM	ENGINE RUNS OUT OF FUEL (OR LEAN MIXTURE).
CONDITION	NORMAL USE.
Test/Inspection	<p>1. Check fuel filter ball located in fuel tank. Ball must move freely.</p> <p>a. Corrosion due to oxidation at installation. <i>Replace fuel filter.</i></p>
	<p>2. Check if lines are perforated or kinked and make sure they do not leak at fittings.</p> <p>a. Lines are too big for their fittings or are improperly routed. <i>Replace or properly relocate lines.</i></p>
	<p>3. Check fuel pump outlet flow.</p> <p>a. Dirt clogging fuel pump lines or torn membrane. <i>Clean or replace fuel pump.</i></p>
	<p>4. Check carburetor needle valve(s).</p> <p>a. Dirt (varnish, foreign particle) clogging fuel line inlets. <i>Clean.</i></p>
	<p>5. Check main jet.</p> <p>a. Dirt (varnish, foreign particle) accumulation at main jet. <i>Clean.</i></p>
	<p>6. Check float height in carburetor bowl(s).</p> <p>a. Running out of fuel at high speed because float height is too low. <i>Adjust float height according to specifications.</i></p>

TRANSMISSION AND BRAKE SYSTEMS

The following charts are provided to help in diagnosing the probable source of troubles. It should be used as a guideline. Some causes or corrections may not apply to a specific model.

TRANSMISSION

SYMPTOM	THE SNOWMOBILE ACCELERATES SLOWLY, ESPECIALLY WHEN IT IS STOPPED.
CONDITION	NORMAL USE.
Test/Inspection	<p>1. Check drive belt condition.</p> <p>a. Belt is too narrow (drive belt engagement is higher in drive pulley). <i>Replace belt if width is less than specified in DRIVE BELT 05-02.</i></p> <p>2. Check distance between pulleys and/or drive belt deflection.</p> <p>a. Distance is too small between pulleys or deflection is too high (drive belt engagement is higher in drive pulley). <i>Adjust distance between pulleys and/or drive belt deflection according to specifications (refer to TECHNICAL DATA 10).</i></p> <p>3. Check driven pulley sliding half play.</p> <p>a. Jammed sliding half. <i>Replace.</i></p> <p>4. Check spring tension of driven pulley sliding half.</p> <p>a. Sliding half rotation is accelerated when spring tension is too weak. <i>Adjust according to specifications (refer to TECHNICAL DATA 10).</i></p> <p>5. Refer to VIBRATIONS ORIGINATING FROM DRIVEN PULLEY and check items listed.</p> <p>6. Check drive pulley spring tension.</p> <p>a. Spring tension is too weak. <i>Replace.</i></p>

SYMPTOM	ENGINE MAXIMUM RPM IS TOO HIGH AND TOP SPEED IS NOT REACHED.
CONDITION	NORMAL USE.
Test/Inspection	<p>1. Check items 1, 2 and 3 of THE SNOWMOBILE ACCELERATES SLOWLY, ESPECIALLY WHEN IT IS STOPPED.</p> <p>2. Check driven pulley spring tension.</p> <p>a. Spring tension is too stiff. <i>Adjust according to specifications (refer to TECHNICAL DATA 10).</i></p> <p>3. Check position of the calibration screws. (TRA drive pulley)</p> <p>a. Selected numbers are too high. <i>Adjust according to specifications (refer to TECHNICAL DATA 10).</i></p> <p>4. Refer to VIBRATIONS ORIGINATING FROM DRIVEN PULLEY and check items listed.</p>

Section 03 TROUBLESHOOTING

Subsection 04 (TRANSMISSION AND BRAKE SYSTEMS)

SYMPTOM	LOOSENESS IS FELT IN DRIVE SYSTEM WHEN ACCELERATING/DECELERATING.
CONDITION	NORMAL USE.
Test/Inspection	1. Check drive chain tension. a. Drive chain is too loose. <i>Adjust.</i>
	2. Check play of driven pulley splines. a. Worn splines. <i>Replace.</i>


SYMPTOM	VIBRATIONS ORIGINATING FROM DRIVE PULLEY.
CONDITION	NORMAL USE.
Test/Inspection	1. Check drive belt. a. Belt width is uneven at many places. <i>Replace.</i>
	2. Check tightening torque of drive pulley screw. a. Moving governor cup. <i>Retighten screw.</i>
	3. Spring cover screws. a. Spring cover moves and restrains sliding half movement. <i>Retighten screws.</i>
	4. Check spring cover (TRA TYPE) and/or outer half bushings. a. Excessive gap between bushings and inner half shaft, thus restraining sliding half movements. <i>Replace bushing(s).</i>
	5. Check sliding half slider shoes. a. Worn slider shoes. <i>Replace.</i>

SYMPTOM	VIBRATIONS ORIGINATING FROM DRIVEN PULLEY.
CONDITION	NORMAL USE.
Test/Inspection	1. Check sliding half play. a. Sliding half runout. <i>Replace sliding half bushing.</i>
	2. Check sliding half and fixed half straightness. a. Sliding half/fixed half runout. <i>Replace.</i>
	3. Check cam slider shoes. a. One or two slider shoes out of three are broken. <i>Replace.</i>

Section 03 TROUBLESHOOTING
Subsection 04 (TRANSMISSION AND BRAKE SYSTEMS)

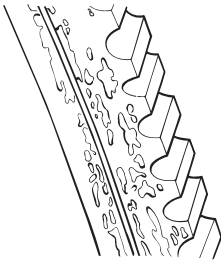
SYMPTOM	PULLEYS DO NOT DOWN SHIFT PROPERLY.
CONDITION	NORMAL USE.
Test/Inspection	1. Check driven pulley spring tension. a. Spring tension is too weak. <i>Adjust according to specifications (refer to TECHNICAL DATA 10).</i>
	2. Refer to VIBRATIONS COMING FROM DRIVEN PULLEY and check items listed.
	3. Check drive pulley bushings (cleanliness, wear, etc.). a. Bushings stick to fixed half pulley shaft. <i>Clean or replace.</i>
	4. Check driven pulley spring tension. a. Spring tension is too weak. <i>Replace.</i>

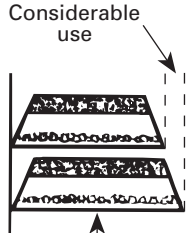
SYMPTOM	IN REVERSE ENGINE BOGS AND DRIVEN PULLEY OPENS TOO FAST (DRIVE BELT IS LOW IN DRIVEN PULLEY).
CONDITION	NORMAL USE.
Test/Inspection	1. Check pulley distance and alignment. a. Improper adjustment. <i>Adjust according to specifications (refer to PULLEY DISTANCE AND ALIGNMENT 05-05) and make sure that engine stopper is resting against engine.</i>

SYMPTOM	UNEVEN BELT WEAR ON ONE SIDE ONLY.
CONDITION	NORMAL USE.
Test/Inspection  <small>A00D09Y</small>	1. Check tightening torque of engine mount bolts. a. Loose engine mount. <i>Tighten engine mount nuts/bolts equally.</i>
	2. Check pulley alignment. a. Pulley misalignment. <i>Align pulleys.</i>
	3. Check drive belt contact area on pulleys. a. Rough or scratched pulley surfaces. <i>Repair or replace pulley half.</i>
	4. Check driven pulley sliding half play. a. Driven pulley bushing worn. <i>Replace bushing.</i>

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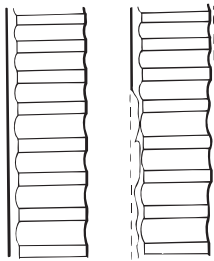
Subsection 04 (TRANSMISSION AND BRAKE SYSTEMS)

SYMPTOM	BELT GLAZED EXCESSIVELY OR HAVING BAKED APPEARANCE.
CONDITION	NORMAL USE.
Test/Inspection  <small>A00D0AY</small>	1. Check if drive pulley bushings are worn. a. Insufficient pressure on belt sides. <i>Replace bushing.</i>
	2. Check condition of drive pulley fixed half shaft. a. Rusted drive or driven pulley shafts. <i>Clean shaft with fine steel wool.</i>
	3. Check if pulley halves are clean. a. Oil on pulley surfaces. <i>Clean pulley halves.</i>
	4. Check pulley calibration. a. Improper pulley calibration. <i>Calibrate according to specifications.</i>

SYMPTOM	BELT WORN EXCESSIVELY IN TOP WIDTH.
CONDITION	NORMAL USE.
Test/Inspection  <small>A00D0BY</small>	1. Check drive pulley. a. Excessive slippage due to irregular outward actuation movement of drive pulley. <i>Carry out drive pulley inspection.</i>
	2. Check drive belt identification number. a. Improper belt angle (wrong type of belt). <i>Replace belt with an appropriate drive belt.</i>
	3. Check drive belt width. a. Considerable use. <i>Replace belt if less than specified in DRIVE BELT 05-02.</i>

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Subsection 04 (TRANSMISSION AND BRAKE SYSTEMS)

SYMPTOM	BELT WORN NARROW IN ONE SECTION.
CONDITION	NORMAL USE.
Test/Inspection	<ol style="list-style-type: none"> 1. Check if parking brake is released. <ol style="list-style-type: none"> a. Parking brake is engaged. <i>Release parking brake.</i> 2. Check track tension/alignment. <ol style="list-style-type: none"> a. Frozen or too tight track. <i>Liberate track from ice or check track tension and alignment.</i> 3. Check drive pulley. <ol style="list-style-type: none"> a. Drive pulley not functioning properly. <i>Repair or replace drive pulley.</i> 4. Check idle speed. <ol style="list-style-type: none"> a. Engine idle speed too high. <i>Adjust according to specifications.</i> 5. Check drive belt length. <ol style="list-style-type: none"> a. Incorrect belt length. <i>Replace belt with an appropriate drive belt (refer to TECHNICAL DATA 10).</i> 6. Check distance between pulleys. <ol style="list-style-type: none"> a. Incorrect pulley distance. <i>Readjust according to specifications.</i> 7. Check belt deflection. <ol style="list-style-type: none"> a. Deflection is too small. <i>Adjust according to specifications.</i>



A00D0CY


SYMPTOM	BELT SIDES WORN CONCAVE.
CONDITION	NORMAL USE.
Test/Inspection	<ol style="list-style-type: none"> 1. Check pulley half surfaces. <ol style="list-style-type: none"> a. Rough or scratched pulley half surfaces. <i>Repair or replace.</i> 2. Check drive belt identification number. <ol style="list-style-type: none"> a. Unspecified type of belt. <i>Replace belt with an appropriate drive belt (refer to TECHNICAL DATA 10).</i>




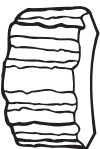
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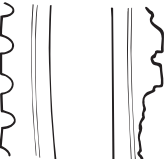
Section 03 TROUBLESHOOTING

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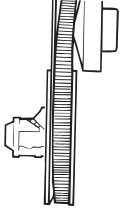
SYMPTOM	BELT DISINTEGRATION.
CONDITION	NORMAL USE.
Test/Inspection  <small>A00D0EY</small>	1. Check drive belt identification number. a. Excessive belt speed. <i>Using unspecified type of belt. Replace belt with proper type of belt (refer to TECHNICAL DATA 10).</i>
	2. Check if pulley halves are clean. a. Oil on pulley surfaces. <i>Clean pulley surfaces with fine emery cloth and wipe clean using Loctite Safety Solvent (P/N 413 708 200) and a cloth.</i>

SYMPTOM	BELT EDGE CORD BREAKAGE.
CONDITION	NORMAL USE.
Test/Inspection  <small>A00D0FY</small>	1. Check pulley alignment. a. Pulley misalignment. <i>Align pulley according to specifications (refer to TECHNICAL DATA 10).</i>

SYMPTOM	FLEX CRACKS BETWEEN COGS.
CONDITION	NORMAL USE.
Test/Inspection  <small>A00D0GY</small>	1. Check drive belt condition. a. Considerable use, belt wearing out. <i>Replace.</i>

SYMPTOM	SHEARED COGS, COMPRESSION SECTION FRACTURED OR TORN.
CONDITION	NORMAL USE.
Test/Inspection  <small>A00D0HY</small>	1. Check drive belt rotational direction. a. Improper belt installation. <i>Replace.</i>
	2. Check if drive belt rubs against components. a. Belt rubbing on stationary object. <i>Relocate components.</i>
	3. Check drive pulley. a. Violent engagement of drive pulley. <i>Check drive pulley engagement speed, drive pulley bushings and components.</i>

Section 03 TROUBLESHOOTING
Subsection 04 (TRANSMISSION AND BRAKE SYSTEMS)

SYMPTOM	BELT "FLIP-OVER" AT HIGH SPEED.
CONDITION	NORMAL USE.
Test/Inspection	<p>1. Check pulley alignment.</p> <p>a. Pulley misalignment. <i>Align pulley according to specifications (refer to TECHNICAL DATA 10).</i></p>
 A00D01Y	<p>2. Check drive belt identification number.</p> <p>a. Using unspecified type of belt. <i>Replace belt with an appropriate drive belt.</i></p>

BRAKE SYSTEM

HYDRAULIC BRAKE

SYMPTOM	SPONGY BRAKE CONDITION.
CONDITION	NORMAL USE.
Test/Inspection	<i>Replace brake fluid and bleed system. If problem still occurs, replace master cylinder.</i>

SYMPTOM	BRAKE FLUID LEAKING.
CONDITION	NORMAL USE.
Test/Inspection	<p>1. Check for loosened hose connectors. <i>Replace copper washers and retighten.</i></p> <p>2. Check for damaged hose, master cylinder and caliper. <i>Replace part(s) and check for proper mounting.</i></p>

SYMPTOM	BRAKE SYSTEM IS NOISY.
CONDITION	NORMAL USE.
Test/Inspection	<p>1. Check brake pad thickness.</p> <p>a. Pads are worn up to wear warner. <i>Replace.</i></p>

ELECTRICAL SYSTEM

The following chart is provided to help in diagnosing the probable source of troubles. It should be used as a guideline. Some causes or corrections may not apply to a specific model.

SYMPTOM	STARTER DOES NOT TURN.
CONDITION	NORMAL USE.
Test/Inspection	1. Check fuse. a. Burnt fuse. <i>Check wiring condition and replace fuse.</i>
	2. Check continuity of starter switch contact points. a. Poor contact of starter switch contact points. <i>Repair or replace switch.</i>
	3. Check continuity between starter switch and solenoid. a. Open circuit between starter switch and solenoid switch. <i>Repair.</i>

SYMPTOM	STARTER TURNS; BUT DOES NOT CRANK THE ENGINE.
CONDITION	NORMAL USE.
Test/Inspection	1. Check battery capacity. a. Shorted battery cell(s). <i>Replace.</i>
	2. Check battery charge. a. Weak battery. <i>Recharge battery and verify recharge system and wires.</i>
	3. Check wire connection. a. Inadequate connection (too much resistance). <i>Clean and reconnect.</i>
	4. Check solenoid switch contact disc. a. Burnt or poor contact of solenoid switch contact disc. <i>Replace solenoid switch.</i>
	5. Check continuity of solenoid switch pull-in winding. a. Open circuit of solenoid switch pull-in winding. <i>Replace solenoid switch.</i>
	6. Check brushes. a. Poor contact of brushes. <i>Replace brushes.</i>
	7. Check commutator. a. Burnt commutator. <i>Turn commutator on a lathe. Respect outer diameter wear limit. Refer to ELECTRIC STARTER 06-05.</i>

Section 03 TROUBLESHOOTING

Subsection 05 (ELECTRICAL SYSTEM)

	<p>8. Check height of commutator mica.</p> <p>a. Commutator mica too high. <i>Undercut mica.</i></p>
	<p>9. Check field coil resistance.</p> <p>a. Shorted field coil. <i>Repair or replace yoke.</i></p>
	<p>10. Check armature resistance.</p> <p>a. Shorted armature. <i>Repair or replace armature.</i></p>
	<p>11. Check tension of brush springs.</p> <p>a. Weak brush spring tension. <i>Replace springs.</i></p>
	<p>12. Check yoke assembly magnets.</p> <p>a. Weak magnets. <i>Replace yoke assembly.</i></p>
	<p>13. Check if bushings are worn.</p> <p>a. Worn bushings. <i>Replace bushings.</i></p>

SYMPTOM	STARTER TURNS, BUT OVERRUNNING CLUTCH PINION DOES NOT MESH WITH RING GEAR.
CONDITION	NORMAL USE.
Test/Inspection	<p>1. Check clutch pinion gear.</p> <p>a. Worn clutch pinion gear. <i>Replace clutch.</i></p>
	<p>2. Check clutch.</p> <p>a. Defective clutch. <i>Replace clutch.</i></p>
	<p>3. Check movement of clutch on splines.</p> <p>a. Poor movement of clutch on splines. <i>Clean and correct.</i></p>
	<p>4. Check clutch bushing.</p> <p>a. Worn clutch bushing. <i>Replace clutch.</i></p>
	<p>5. Check starter bushings.</p> <p>a. Worn starter bushing(s). <i>Replace bushing(s).</i></p>
	<p>6. Check ring gear.</p> <p>a. Worn ring gear. <i>Replace ring gear.</i></p>

Section 03 TROUBLESHOOTING
Subsection 05 (ELECTRICAL SYSTEM)

SYMPTOM	ELECTRIC STARTER KEEPS TURNING WHEN ENGINE IS STARTED.
CONDITION	NORMAL USE.
Test/Inspection	1. Check clutch. a. Jammed clutch pinion gear. <i>Replace or clean.</i>
	2. Check movement of clutch on splines. a. Clutch is stuck on splines. <i>Clean.</i>
	3. Check starter brackets. a. Broken bracket(s). <i>Replace bracket(s).</i>
	4. Check ignition switch. a. Ignition switch does not return to its ON position or is short-circuited. <i>Adjust switch position. Face nut is too far in.</i>
	5. Check starter relay. a. Shorted starter relay winding(s). <i>Replace starter relay.</i>
	6. Check starter relay contacts. a. Melted starter relay contacts. <i>Replace starter relay.</i>
	7. Check starter relay. a. Starter relay returns poorly. <i>Replace starter relay.</i>

SYMPTOM	NOISE OCCURENCE WHEN STARTING ENGINE.
CONDITION	NORMAL USE.
Test/Inspection	1. Check if ring gear is well-mounted to drive pulley inner half. a. Loose and/or broken bolts. <i>Retighten bolts using thread locker or replace ring gear and drive pulley inner half.</i>

SYMPTOM	20 A FUSE LOCATED IN LEFT FRONT CORNER OF ENGINE COMPARTMENT IS BURNT.
CONDITION	NORMAL USE.
Test/Inspection	1. 20 A fuse burns when electric starter is activated with a faulty starter ground. Check that ground cable between chassis and starter bracket is well connected. a. Broken, corroded and/or loose connection(s). <i>Replace, clean and/or retighten. Replace 20 A fuse.</i>

Section 03 TROUBLESHOOTING

Subsection 05 (ELECTRICAL SYSTEM)

SYMPTOM	ELECTRIC STARTER SOMETIMES DOES NOT WORK WHEN TURNING IGNITION SWITCH.
CONDITION	NORMAL USE.
Test/Inspection	1. Check battery cables and starter wires. a. Corroded and/or loose connection(s). <i>Clean and/or retighten.</i>
	2. Check fuse. a. Oxidized or burnt fuse. <i>Clean or replace.</i>
	3. Check wiring harness connections. a. Oxidized connections. <i>Clean or replace defective terminals.</i>
	4. Check ignition switch. a. Defective contacts in ignition switch. <i>Replace.</i>
	5. Check solenoid of electric starter. a. Shorted solenoid wiring harness or eroded contact washer. <i>Replace.</i>

Section 03 TROUBLESHOOTING
Subsection 05 (ELECTRICAL SYSTEM)

SYMPTOM	ENGINE DOES NOT START — NO SPARK AT SPARK PLUG.
CONDITION	AT ENGINE CRANKING.
Test/Inspection	<p>1. Verify spark plug condition.</p> <p>a. Defective, improperly set, worn-out, fouled. <i>Identify source of problem and correct. Replace spark plugs.</i></p>
	<p>2. Verify spark plug cap resistance with an ohmmeter.</p> <p>a. Defective part. <i>Replace cap.</i></p>
	<p>3. Verify if problem originated from electrical system wiring harness and/or accessories and/or ignition cut-out switches by unplugging the 3-wire connectors between the magneto/generator and the vehicle wiring harness. Check condition of connectors.</p> <p>a. Heating, rotating or sharp part in contact with harness. Improper harness routing. Defective switch(es). Corroded connector terminals. <i>Replace or repair damaged wires. Reroute where necessary. Replace defective switch(es). Clean terminals and apply silicone dielectric grease.</i></p>
	<p>4. Verify trigger coil resistance with an ohmmeter and connector condition.</p> <p>a. Defective coil. Corroded connector terminals. <i>Replace defective coil. Clean terminals and apply silicone dielectric grease.</i></p>
	<p>5. Verify condition of ignition coil.</p> <p>a. Mechanically damaged part. Vibration problem. Electrically damaged part. <i>Tighten mounting screws. Replace ignition coil.</i></p>
	<p>6. Verify condition of ignition generator coils.</p> <p>a. Mechanically damaged part. Vibration problem. Electrically damaged part. <i>Tighten mounting screws. Replace coils.</i></p>
	<p>7. Verify MPEM.</p> <p>a. Mechanically damaged part. Vibration problem. Electrically damaged part. <i>Check that MPEM is properly mounted and secured. Replace MPEM, retest and verify ignition timing.</i></p>

SYMPTOM	CDI MODULE DOES NOT WORK.
CONDITION	NORMAL USE.
Test/Inspection	<p>1. Check that high tension coil wires do not touch any metal parts.</p> <p>a. Short circuit. <i>Isolate and reroute wires.</i></p>

SYMPTOM	ENGINE STALLS.
CONDITION	AT LOW SPEED.
Test/Inspection	1. Verify items 4, 5 and 6 above.

Section 03 TROUBLESHOOTING

Subsection 05 (ELECTRICAL SYSTEM)

SYMPTOM	IRREGULAR ENGINE SPEED.
CONDITION	AT HIGH SPEED.
Test/Inspection	1. Verify items 4, 5 and 6 above.
CONDITION	AT LOW SPEED.
Test/Inspection	1. Verify items 4 and 5 above and trigger coil/flywheel protrusion air gap. a. Air gap too large. <i>Readjust air gap.</i>

SYMPTOM	ENGINE IS MISFIRING — ERRATIC SPARK AT SPARK PLUG.
CONDITION	RIDING ON WET SNOW.
Test/Inspection	1. Verify if spark plug wires and/or spark plug cap seals are sealing out moisture. a. Defective wires and/or seals. <i>Replace defective part.</i>
	2. Verify if ignition system wiring harness connectors are in good condition and/or are sealing out moisture. a. Loose connectors, corroded terminals or defective parts. <i>Clean terminals and apply silicone dielectric grease. Replace defective parts.</i>
CONDITION	NORMAL USE.
Test/Inspection	1. Verify misfiring by observing flash of stroboscopic timing light; unplug connectors between magneto/generator and vehicle wiring harness to isolate problem. Check condition of connectors. a. Defective spark plug(s) and/or cable(s)/cap(s). Defective electrical system wiring harness and/or accessories and/ignition cut-out switches. Condition of connector terminals. <i>Replace defective parts and/or repair damaged wires. Replace defective switch(es). Clean terminals and apply silicone dielectric grease.</i>
CONDITION	RIDING IN DEEP AND THICK SNOW.
Test/Inspection	1. Perform all verifications outlined under ENGINE DOES NOT START — NO SPARK AT SPARK PLUG.
	2. Verify spark plugs. Proceed with spark plug analysis in order to identify source of problem. a. Defective and/or worn spark plug(s) and/or cable(s) and/or cap(s). <i>Replace defective part(s). Proceed with ignition system testing procedures. Perform engine analysis.</i>

Section 03 TROUBLESHOOTING
Subsection 05 (ELECTRICAL SYSTEM)

SYMPTOM	FOULED (BLACK) SPARK PLUG TIP.
CONDITION	NORMAL USE.
Test/Inspection	1. Check carburetor(s). a. Carburetion is too rich. <i>Adjust according to specifications (refer to TECHNICAL DATA 10).</i>
	2. Check injection oil consumption. a. Injection pump flow is too high. <i>Adjust according to specifications or replace.</i>
	3. Check oil quality. a. Poor oil quality that creates deposits. <i>Use BOMBARDIER-ROTAX injection oil.</i>
	4. Check engine compression. a. Leaking piston ring(s). <i>Replace.</i>

SYMPTOM	SPARK PLUG TIP(S) IS (ARE) LIGHT GREY.
CONDITION	NORMAL USE.
Test/Inspection	1. Refer to IRREGULAR ENGINE SPEED AT HIGH SPEED and check items listed.
	2. Check spark plug heat range. a. Spark plug heat range is too high. <i>Replace by Bombardier's recommended spark plug (refer to TECHNICAL DATA 10).</i>
	3. Check if air intake silencer leaks. a. Air surplus coming from opening(s) located between halves. <i>Seal.</i>
	4. Check carburetor adapter collars. a. Loose collar(s). <i>Tighten.</i>
	5. Check carburetor adapter(s). a. Cracked or deformed adapter(s). <i>Replace.</i>

Section 03 TROUBLESHOOTING

Subsection 05 (ELECTRICAL SYSTEM)

SYMPTOM	HEADLAMP NOT LIGHTING.
CONDITION	WHITE BULB.
Test/Inspection	1. Check bulb. a. Gas leak. <i>Replace bulb.</i>
CONDITION	BROKEN ELEMENT.
Test/Inspection	1. Check for loose headlamp housing and bulb socket. a. Vibration problem. <i>Tighten headlamp mounting screws. Lock bulb in socket. Replace bulb.</i>
CONDITION	MELTED FILAMENT (ENDS OF ELEMENT HOLDER) AND BLACK BULB.
Test/Inspection	1. Check voltage at headlamp at different speeds. It must not be above 15 Vac. NOTE: If quartz halogen bulb is involved, ensure that proper voltage regulator is installed. a. Excessive voltage in lighting circuit. <i>Replace voltage regulator and ensure proper grounding. Retest.</i>

Section 03 TROUBLESHOOTING
Subsection 05 (ELECTRICAL SYSTEM)

SYMPTOM	HEADLAMP DIMING.
CONDITION	NORMAL USE.
Test/Inspection	<p>1. Check voltage at headlamp at different speeds. It must not be below 11 Vac.</p> <p>a. Insufficient voltage in lighting circuit. <i>Replace voltage regulator and retest.</i></p> <p>2. Visually inspect wiring harness for damaged and/or melted wires and/or bad wire terminal crimping and/or connections.</p> <p>a. Heating, rotating or sharp part in contact with harness. Improper harness routing. <i>Repair/replace damaged wires and/or terminals. Reroute harness where necessary.</i></p> <p>3. On manual start models: Verify regulator ground.</p> <p>a. Rusted or loose retaining screws. <i>Clean, apply lithium grease (LMZ1) and firmly tighten screws.</i></p> <p>4. Verify if there is an interconnection between AC and DC current.</p> <p>a. Faulty installation of optional equipment. Find optional equipment connected directly to DC ground (BK wire or chassis) or to any DC hot wire (RD, RD/BL). Disconnect and reconnect to AC current (YL and YL/BK wires).</p> <p>5. Verify if optional electric accessories are overloading the magneto/generator.</p> <p>a. Excessive electrical load to magneto/generator. <i>Reduce the electrical load by removing excess accessories. Reconnect as recommended by manufacturer.</i></p> <p>6. Hot Grips brand: Verify if they were connected in parallel by mistake.</p> <p>a. Excessive electrical load to magneto/generator. <i>Reconnect as recommended by manufacturer.</i></p> <p>7. Bombardier heating grips: Verify if the return wires of the elements were grounded to the chassis by mistake.</p> <p>a. Faulty installation of optional equipment. <i>Reconnect as recommended by manufacturer.</i></p> <p>8. Verify if heating grips installation overloads the magneto/generator capacity.</p> <p>a. Excessive electrical load to magneto/generator. <i>Reduce the electrical load by removing accessories.</i></p>

SYMPTOM	FALSE FUEL AND/OR TEMPERATURE GAUGE READINGS.
CONDITION	NORMAL USE.
Test/Inspection	<p>1. Verify sender unit for free movement and/or correct arm position.</p> <p>a. Defective or damaged part. <i>Correct or replace sender unit.</i></p> <p>2. Verify sender unit/gauge wiring harness condition.</p> <p>a. Heating, rotating or sharp part in contact with harness. Improper harness routing. <i>Replace or repair damaged wires. Reroute where necessary.</i></p>

Section 03 TROUBLESHOOTING

Subsection 05 (ELECTRICAL SYSTEM)

SYMPTOM	WITH ENGINE IDLING NO ELECTRICAL ACCESSORIES WORK.
CONDITION	NORMAL USE.
Test/Inspection	1. Check idle speed. a. Too low idle speed. <i>Readjust to specifications.</i>
	2. Verify regulator. a. Faulty regulator. <i>Replace.</i>

SYMPTOM	BRAKE LIGHT REMAINS ON.
CONDITION	NORMAL USE.
Test/Inspection	1. Check if bulb is properly installed. a. Bulb is not installed correctly (contact elements are reversed). <i>Install bulb correctly.</i>
	2. Check brake switch. a. Switch contact remains closed. <i>Replace brake switch.</i>

SYMPTOM	REAR LIGHT BULB FLASHES.
CONDITION	NORMAL USE.
Test/Inspection	1. Check bulb tightness in housing. a. Looseness at bulb contact elements. <i>Install bulb correctly.</i>
	2. Check if rear light is properly connected. a. Connector housing is partially connected. <i>Install connector housing properly.</i>
	3. Check continuity of wires. a. Corroded terminals and/or broken wires. <i>Replace terminal(s) or crimp defective wires.</i>

Section 03 TROUBLESHOOTING
Subsection 05 (ELECTRICAL SYSTEM)

SYMPTOM	TACHOMETER DOES NOT WORK.
CONDITION	NORMAL USE.
Test/Inspection	1. Check continuity of wires. a. Corroded terminals and/or broken wires. <i>Replace terminal(s) or crimp defective wires.</i>

SYMPTOM	HIGH BEAM PILOT LAMP LIGHTS UP WHEN LOW BEAM IS SELECTED.
CONDITION	NORMAL USE.
Test/Inspection	1. Check proper connections. a. Other wire connected to pilot lamp. Mixed-up connections. <i>Reconnect YELLOW/BLACK and GRAY wires to pilot lamp. YELLOW wires are connected to heating element pilot lamps.</i>

SUSPENSION AND TRACK

The following chart is provided to help in diagnosing the probable source of troubles. It should be used as a guideline. Some causes or corrections may not apply to a specific model.

SYMPTOM	SUSPENSION IS TOO LOW.
CONDITION	NORMAL USE.
Test/Inspection	<p>1. Check condition of spring.</p> <p>a. Spring is weakened or broken. <i>Replace spring.</i></p> <p>2. Check preload of spring.</p> <p>a. Low spring preload. <i>Increase preload to the recommended position.</i></p>

SYMPTOM	REAR SUSPENSION BOTTOMS OUT.
CONDITION	NORMAL USE.
Test/Inspection	<p>1. Check rear spring preload or rear arm spring preload.</p> <p>a. Spring tension is too low. <i>Increase rear arm spring preload.</i></p>

SYMPTOM	SLIDER SHOES WEAR OUT PREMATURELY.
CONDITION	NORMAL USE.
Test/Inspection	<p>1. Check track tension.</p> <p>a. Pressure is too great on slider shoes. <i>Adjust according to specifications (refer to TECHNICAL DATA 10). Replace defective parts.</i></p>

SYMPTOM	TRACK CLEATS BECOME BLUE.
CONDITION	NORMAL USE.
Test/Inspection	<p>1. Check track tension.</p> <p>a. Pressure is too great on cleats. <i>Adjust according to specifications (refer to TECHNICAL DATA 10).</i></p> <p>2. Check slider shoes and/or suspension retaining screws.</p> <p>a. Worn slider shoes or lost retaining screws. <i>Replace defective parts and/or tighten loose screws.</i></p>

Section 03 TROUBLESHOOTING

Subsection 06 (SUSPENSION AND TRACK)

SYMPTOM	NOISE OR VIBRATIONS ORIGINATING FROM THE TRACK.
CONDITION	NORMAL USE.
Test/Inspection	1. Check slide suspension retaining bolts. a. Missing bolt(s) allowing movement of certain components which in turn interfere with track rotation. <i>Replace missing bolt(s).</i>
	2. Check condition of idler wheel(s). a. Idler wheel rubber is damaged. <i>Replace.</i>
	3. Check guide cleats. a. Top portion of guide cleat(s) is bent. <i>Replace.</i>
	4. Check sprockets. a. One or various teeth of drive shaft sprockets are broken. <i>Replace sprocket(s).</i>
	5. Check track rods and/or internal traction teeth. a. One or various track rods and/or teeth are broken. <i>Replace track.</i>

SYMPTOM	DERAILING TRACK.
CONDITION	NORMAL USE.
Test/Inspection	1. Check track tension. a. Track is too loose. <i>Adjust.</i>
	2. Check if track and slider shoes are properly aligned. a. Improper alignment. <i>Adjust.</i>
	3. Check for proper suspension fastening. a. Loose or lost retaining screws. <i>Install new screws and tighten to recommended torque.</i>

Section 03 TROUBLESHOOTING
Subsection 06 (SUSPENSION AND TRACK)

SYMPTOM	REAR SUSPENSION IS TOO STIFF.
CONDITION	NORMAL USE.
Test/Inspection	1. Check track tension. a. Track is too tight. <i>Adjust.</i>
	2. Check if axles are properly lubricated. a. Improper lubrication and/or contaminated grease (sticky oil sludge). <i>Clean and/or lubricate.</i>
	3. Check rear spring preload. a. Too much preload. <i>Adjust to recommended position.</i>

SYMPTOM	WHEN HANDLEBAR IS TURNED, SNOWMOBILE UNDERSTEERS.
CONDITION	NORMAL USE.
Test/Inspection	1. Check ski runner condition. a. Worn ski runners. <i>Replace.</i>
	2. Check tension of ski spring adjustment cams. a. Insufficient ski pressure on the ground. <i>Increase spring preload.</i>
	3. Check if front arm stopper strap is too long. a. Insufficient ski pressure on the ground. <i>Shorten stopper strap.</i>
	4. Check front arm spring tension. a. Insufficient ski pressure on the ground. <i>Loosen spring tension.</i>

Section 03 TROUBLESHOOTING

Subsection 06 (SUSPENSION AND TRACK)

SYMPTOM	HANDLEBAR IS DIFFICULT TO TURN.
CONDITION	NORMAL USE.
Test/Inspection	1. Check position of ski spring adjustment cams. a. More pressure on the ground when cam increases spring preload. <i>Reduce ski spring preload.</i>
	2. Check position of stopper strap. a. More weight when stopper strap is short. <i>Lengthen front arm stopper strap.</i>
	3. Check position of front arm shock adjustment cam(s). a. When spring tension is weak, more weight is transferred to the skis. <i>Increase spring preload.</i>
	4. Check condition of ball joints. a. Corrosion restrains movement. <i>Lubricate or replace.</i>
	5. Check swing arm camber. a. Too much ski leg inclination. <i>Adjust camber to specifications.</i>
	6. Check for proper lubrication. a. Components need lubrication. <i>Lubricate. Refer to LUBRICATION AND MAINTENANCE 02.</i>

SYMPTOM	THE SNOWMOBILE IS UNSTABLE (IT MOVES FROM LEFT TO RIGHT AND VICE VERSA).
CONDITION	NORMAL USE.
Test/Inspection	1. Check ski runner condition. a. Worn or bent ski runners. <i>Replace ski runners.</i>
	2. Check ski alignment. a. Improper ski alignment. <i>Align skis in order to obtain proper toe-out (opening) (to adjust, refer to STEERING SYSTEM 08).</i>
	3. Check if bushings are too loose in steering system. a. Bushings are too loose. <i>Replace.</i>
	4. Check ski pressure. a. NOTE: If all parts are in good condition and the customer still complains about an unstable snowmobile, consider the installation of optional Proactive Control System.