Motor Vehicle Inspection Program

Out of Province and Salvage

Inspection Methods and Standards Manual

Motorcycles And Mopeds

Due to the dynamic nature of the Motorcycle Repair Industry, all items listed are to be used as an inspection outline or overview.

Repair methods and procedures are to be completed within OEM specifications and using accepted industry standards.

The Traffic Safety Act and Vehicle Equipment Safety Regulation can be obtained from the Queen's Printer. www.qp.gov.ab.ca, or by contacting the following locations.

Edmonton

Main Floor, Park Plaza
10611 – 98 Avenue
Edmonton AB T5K 2P7

Phone: (780) 427-4952
Fax: (780) 452-0668

Calgary

602, 620 – 7th Avenue SW
John J. Bowlen Building
Calgary AB T2P 0Y8

Phone: (403) 297-6251
Fax: (403) 297-8450

Notice: To Inspection Facility and Technician

The vehicle owner must provide a Request for Vehicle Inspection from an Alberta Registry agent prior to the inspection being performed. Verify vehicle information on the report ensuring the vehicle identification number (VIN) is correct for the vehicle being inspected. If errors are evident, contact the Alberta Registry agent to make corrections.

Pad(s) of inspection certificates issued to your licensed station must be kept at your premises at all times. These certificates are for the exclusive use of your facility and are non-transferable.

Inspection facilities will be familiar with the contents of this manual and the Traffic Safety Act, Motor Vehicle Inspection Regulation AR318/2002 and ensure that authorized technicians adhere to the regulations and the procedures as set out in the manual.

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Item and Method of Inspection	Reject If
1. Frame Visually inspect for: a) Cracks, breaks, twists, compressed or deformed tubing, and structural damage to gussets	a) Cracked, broken, twisted, or any evidence of structural damage, or bent in such a way that the wheel tracking alignment exceeds the limits defined in *Steering Alignment Section 2*
2. Swing Arm Visually inspect for: a) Bushings and bearings for wear or looseness. Check for evidence of lateral movement b) Inspect for proper alignment	a) Bent, cracked, broken, or loose b) Wheels won't track properly and adversely affect control of motorcycle
3. Fenders Each wheel should be equipped with a fender. Visually inspect for: a) Fender is present b) Securement of mountings, cracks, broken areas or sharp edges	a) Fender is missing b) Not mounted securely and exposed sharp edges
4. Stand Inspect for: a) Proper holding b) structural integrity c) Retracting d) Side stand safety switch (when equipped) NOTE: Motorcycles may be equipped either with a side stand, centre stand or both	a) Does not remain on the stand when the front wheel is turned from stop to stop b) Cracked or broken c) Does not fully retract or remain in the fully retracted or stored position d) Starts in gear

Item and Method of Inspection	Reject If
5. Seat Inspect for: a) Securement b) Latching device	a) Not securely attached b) Seat latching or securing device does not function properly
6. Review Mirror Visually inspect for:(both mirrors) a) Presence (either side) b) Mounting hardware for proper size, location and secureness c) Reflective surface d) Location	a) Missing b) Not securely mounted, broken, sharp edges c) Tarnished or peeling, reflective surface not less than 806mm^2 (12.5 in^2) of reflective surface area d) Does not provide the operator with an unobstructed view
7. Windscreen Visually inspect for: (if equipped) a) Cracks, discoloration, or scratches that obstruct driver's forward vision b) Obstructs driver's vision	a) Has cracks, discoloration or scratches that obstructs forward vision b) Windscreen obstructs or obscures the driver's view of the road surface ahead of front wheel

Item and Method of Inspection	Reject If
8. Handhold Inspect: a) Presence, integrity, secureness	a) The handhold not securely attached
9. Footrests/Floorboards (1971 or newer required) Inspect: a) For presence b) Integrity c) Secureness of attachments d) Folding capability (Passenger's footrest)	a) Missing where originally equipped b) Not accessible for passenger's feet c) Not securely attached d) Do not fold upward, or rearward and upward

Item and Method of Inspection	Reject If
1. Steering Head Bearing(s) Inspect with front wheel raised. Check for: a) Loose adjustment or play in steering head bearings b) Loose or over tight bearing adjustment c) Bearing roughness	a) Noticeable play b) Roughness within steering head bearings c) Steering does not rotate smoothly from stop to stop
2. Wheel Bearings Inspect with front wheel raised: a) For wheel bearing looseness b) Bearing roughness c) Noise or vibration	a) Have perceptible play b) Roughness c) Binding
3. Handlebars Visually inspect for: a) Presence of cracks b) Proper alignment c) Mounting height d) Width e) Installation of handgrips	a) Cracked, broken, bent frame b) Misaligned c) Positioned so handgrips are at a level above the operator's shoulder height when the operator is sitting astride the seat, or the rise is more than 380 mm (15 inches) above the seat, whichever is less d) Handlebar width less than 460 mm (18 inches) or greater than 920 mm (36 inches) from grip end to grip end. e) Not equipped with handgrips.

Item and Method of Inspection	Reject If
4. Steering Alignment Visually inspect for: a) Front to rear wheel alignment. (**Note**: For ease of inspection, three reference lines, 25mm (1 inch) apart, on the floor of the inspection area may be used. Centre the front tire on the centre line and observe the tracking of the rear wheel as the cycle is moved forward along the line.) b) Front wheel to front fork tubes alignment c) Condition	a) Wheel planes do not align with longitudinal axis of the frame, causing tracking to misalign by 2.5 mm (1 in) or more b) Front wheel plane is not vertical and parallel to front fork tubes c) Front fork tubes are bent or damaged
5. Steering Head Visually inspect for: a) Steering stops b) Cracks, irregular welds and evidence of grinding	a) Missing or damaged b) Crack in or adjacent to any weld Note: If irregular frame welds occur at the steering head recheck the VIN for possible alteration and validity
6. Shock Absorbers Visually and manually inspect for: a) Securement b) Fluid or gas leaks, rebound damping and attachment c) Condition	a) Are not securely attached or missing b) Do not dampen c) Bent, broken springs

Item and Method of Inspection	Reject If
1. Throttle Inspect for: a) Twist Grip	a) Does not automatically close to an idle when released from full open position (on motorcycles manufactured after September 1, 1974) • Throttle or control levers are loose • Control levers are broken or do not operate freely
b) Throttle Lock	b) If equipped
c) Cruise Control	c) If equipped
2. Cable / Cable Housings Manually and Visually inspect for: a) Pinch and kinking damage	a) Outer cable housing is pinched or kinked
b) Loose ends on exposed portions, severe bends, kinks and broken strands	b) Loose cable ends, severe bends, kinks or broken strands on the exposed portions
c) Cable and lever condition	c) Cable broken, lever broken
3. Brake and Clutch Control Levers Manually and Visually inspect for: a) Brake free play and reserve	a) Has no free play. Less than 1/5 of total available control travel remains
b) Clutch lever free play	b) Clutch control lever has no free play. Clutch lever travel bottoms prior to full clutch disengagement
c) Condition	c) Broken, or bent

Item and Method of Inspection	Reject If
4. <u>Supplemental Engine Stop</u> Inspect for: a) For the supplemental engine stop control switch if originally equipped with one (required if manufactured after September 1, 1974)	a) Not equipped with an operable supplemental engine control switch

NOTES:

Item and Method of Inspection	Reject If
1. Speedometer and Odometer Operate the vehicle and Visually inspect for: a) Speedometer i) operation b) Odometer (if equipped) i) operation	a) Does not operate b) Does not operate
2. Identification Inspect for: a) Plate mounting and location b) VIN (check validity) c) Securement	a) Does not display to the rear, does not have required lighting device b) Alterations are found c) Not secure
3. Accessories Visually inspect for: a) Accessory components for secure mounting and location so as not to interfere with the operation of the motorcycle or its essential equipment b) Components for cracks, breaks and sharp points or edges that present a hazard	a) Interfere with, obstruct or prevent proper use of any control, component or system required for operation of motorcycle b) Items cover, interfere or obstruct any required lighting device or reflector c) Bolt on accessories have sharp edges, points or breaks that may present a hazard to the driver, a passenger or pedestrian

Item and Method of Inspection	Reject If
1. Lamps All lamps must comply with designated requirements. All lamps mentioned except hazard lamps are to be inspected with headlamps and all other auxiliary lamps on and with brakes applied. Visually inspect for:	Any lamp fails to illuminate, is missing, broken, cracked, insecurely mounted, has moisture visible in interior, is fitted with a cover, does not meet CMVSS and displays DOT or SAE marking or **does not meet the requirements as set out below**:
a) Head lamp(s) (high/low beam) • If two headlamps are used, they must be mounted on a vertical centerline	a) Not white in colour and or mounted on a vertical centerline not less than 560 mm (22 inches) nor more than 1400 mm (55 inches) above the road surface. High/ Low beam not present
b) Tail lamps	b) Must be red and mounted on the rear of the vehicle on the vertical centerline. If two taillamps are used, they must be symmetrically placed about the vertical centerline. The taillamps must be mounted not less than 380 mm (15 inches) nor more than 2000 mm (78 inches) above the road surface
c) Stop lamps	c) Must be red in colour and mounted on the rear of the vehicle on the vertical centerline. If two stop lamps are used they must be symmetrically positioned about the vertical centerline. Must be mounted not less than 380 mm (15 inches) nor more than 2000 mm (78 inches) above the road surface
d) Turn signal lamps	d) Front turn signals must be amber or white and mounted on each side of the vertical centerline at the same height. Rear turn signal lamps must be red or amber and mounted on either side of the vertical centerline at the same height
e) License plate lamp	e) Must be white in colour and maybe combined with other lighting devices

Item and Method of Inspection	Reject If
2. Reflex Reflectors Visually inspect for: a) Position b) Colour	a) Not positioned properly. Mounted less than 380 mm (15 inches) or more than 1600 mm (63 inches) above the road surface measured from the center of the device b) Not the proper colour
3. Instruments Lamps Visually inspect for: a) Presence of all indicator lamps b) Operation	a) Not equipped with any required lighting device b) Fails to illuminate
4. Head lamp Aiming Inspect for: a) Aim b) Adjusters	a) Not within manufacturer's specifications for the vehicle type b) Missing, broken, inoperable, mounted insecurely
5. Lighting Equipment for Three-Wheel Motorcycles Inspect for: a) Location b) Operation	a) It is not equipped with required lighting devices that are properly located. (motorcycle lighting equipment to the front and front side, with required passenger car lighting equipment to the rear and rear side) b) Lighting equipment does not operate properly

Item and Method of Inspection	Reject If
6. <u>Lighting Equipment for Sidecars</u> Inspect:	
a) Tail-stoplamp	a) Not equipped with tail-stoplamp
b) Stoplamp alignment	b) Stoplamp not aligned horizontally with the lamp on the motorcycle and doesn't display the same photometric values
c) Check reflectors	c) No red reflex reflector at rear of sidecar
d) Position	d) Sidecar obscures the amber reflex reflector located to the front of the motorcycle
e) Side car lamps	e) Sidecar not equipped with an approved motorcycle auxiliary front lamp or an auxiliary driving lamp

Item and Method of Inspection	Reject If
1. Wiring Visually inspect for:	
a) Security	a) Loose enough to contact moving parts insecurely attached resulting in chaffing
b) Insulation	b) Peeled, cracked through, missing sections
c) Connection	c) Corroded, loose
2. Battery Visually inspect for:	
a) Mounts/tray	a) Missing, corroded in a manner resulting in metal perforation, weakened, and cracked
b) Cover or hold down	b) Missing, insecure, inferior substitute
3. Switches Visually and manually inspect for:	
a) Headlamp switch	a) Missing, broken, inoperable, not OEM or equivalent
b) Dimmer switch	b) Missing, inoperable
c) Turn indicator switch (if manufactured after October 1, 1973)	c) Inoperable
4. Horn Visually, audibly and manually inspect for:	
a) Mounting, operation, and condition of horn	a) Not securely mounted or is inaudible

Item and Method of Inspection	Reject If
1. General Brake Requirements	
a) Inspect to ensure that it is equipped with a brake on each wheel	a) Any wheel is not equipped with an operational brake
2. Hydraulic System	
Visually inspect for:	
a) Hydraulic hoses, tubes and connections for deterioration, leaks, routing and support	a) Hoses or tubes (lines) are leaking, worn so that the fabric layer is exposed, chafed, pinched, cracked, or insecurely fastened Hoses swell or bulge when brake pressure applied
b) Master cylinder for leaks, fluid level, and control adjustment	b) Master cylinder reservoir less than ¼ full or the low fluid warning light is on. Master cylinder leaks or is not securely mounted. Pressure cannot be maintained for 10 seconds
c) Wheel brake assembly	c) Fluid leakage around the wheel brake assembly
d) Caliper action for disc to pad clearance	d) Caliper fails to actuate or release. Full actuation of the brake control fails to fully apply the brake at the wheel
e) Brake control lever/pedal	e) Has no free play and less than 1/5 of the total available control travel remains in reserve when the brake force is fully applied. Brake system warning light does not function

Item and Method of Inspection	Reject If
3. Braking Lining and Disc Pad Inspect all brake linings and disc pads where visible without removing the wheel: a) All motorcycles manufactured after January 1, 1974, provide a way to visually inspect the brake lining and pad wear b) Only remove wheels for brake inspections when the motorcycle fails a stopping test	a) Brake lining wear arrow or index mark indicates "off-scale", "unsafe" or "replace" on the reference scale b) The bonded lining is worn to 1.6 mm (2/32 inches) at the thinnest point on the brake shoe or pad c) Rivet-type lining is worn to within 1.6 mm (2/32 inches) above the rivet heads on the brake shoe and within 1.6 mm (2/32 inches) on the pads d) Lining is loose, cracked, broken, or contaminated with oil, grease, or brake fluid
4. Brake Drum and Discs Visually inspect for: a) Drum for external cracks or breaks b) Disc for scoring, cracks, breaks, distortion and contaminated friction surface	a) Any cracks extending to the edge of the drum or disc. Drum diameter exceeds the maximum diameter recommended by manufacturer b) Disc is scored to the extent that remachining would exceed the manufacturers' limits c) Thickness of any disc is less than the minimum thickness recommended by the manufacturer

Item and Method of Inspection	Reject If
5. Mechanical Brake System Inspect for:	
a) Cables, linkage, pins, springs, pivots and bearings for excessive friction, wear and broken parts	a) Cotter keys or spring clips are broken or missing. Pins or clevises are visibly worn. Front brake cable is routed so that it is pinched between any portion of the front fork and frame
b) Actuating camshaft for wear and looseness in the backing plate bushing	b) Brake pedal or lever is inaccessible for operating the brake
c) Pedal shaft and bearings for wear and alignment	c) Excessive friction or wear in levers, pedals, cables, linkage or other brake components that restrict the automatic return of levers and pedals
d) Brake shoes/pads to see if they return to a disengaged position when the brake control is released. Check front brake lever and rear brake lever or pedal for reserve when the brake is fully applied	d) Brake control lever pedal has no free play. Less than 1/5 of the total available control travel remains when the brake force is fully applied
e) Conduct a road test to inspect the brakes if a visual inspection of the brake system components creates doubt about the performance capability	e) Application of maximum braking force fails to stop the motorcycle within a distance of 6 m (20 ft) from a speed of 30 km/h (20 mph.)

Item and Method of Inspection	Reject If
1. Tire Condition Visually inspect for: a) Condition b) Tread	 a) Any cuts evident below tread depth; cuts into cords; any chunking greater than 25 mm (1 inch) • Cord exposed • Has any cuts into cord layer • Leaking, b) Less than 1.6 mm (2/32 inch) when measured with a tread depth gauge in any two adjacent major tread grooves at three locations spaced approximately equal distance around the outside of the tire
2. Tire Restrictions Visually inspect for: a) Manufacturer's markings that designate usage restrictions b) Regrooved or recut tires	 a) Tires have markings such as "for racing purposes only," "unsafe for highway use," or "NHS" b) Tires have been regrooved or recut
3. Wheels, Rims & Spokes Visually inspect for: a) Condition b) Structural integrity	 a) Spokes or braces are broken or missing, or spokes are visibly loose b) Any part of the wheel rim is cracked, bent or broken c) Any brace, disc, strut or spider is cracked or broken

Item and Method of Inspection	Reject If
1. Components and Piping Inspect for: a) Muffler b) Exhaust system c) Mounting and connections	a) Muffler internals have been removed b) Exhaust system is equipped with any bypass, cutout device or widened opening c) Mounting or connection is loose, broken or missing
2. Location Inspect for: a) Unshielded protrusions or any portion of the exhaust system that is mounted higher than the lowest part of the passenger seat pan	a) Unshielded part of the exhaust system protrudes in a manner that might burn the rider or passenger when seated in a normal position b) Unshielded portion of an exhaust system is mounted higher than the lower portion of the passenger seat pan

Item and Method of Inspection	Reject If
1. Components Visually and manually inspect for: a) Fuel tank, fuel tank supporting brackets and hardware, fuel tank cap, fuel control valve, fuel tubing, clamps and hoses, and carburetor or injectors b) Leakage c) Tank cap	a) Any portion of the fuel system is not securely attached. Tank corrosion b) Fuel is leaking from any point in the system c) Tank cap is missing, damaged or fails to latch

Item and Method of Inspection	Reject If
1. Chain / Belt Visually and manually inspect for: a) Proper adjustment and wear b) Slack measurements	a) Belt is frayed or teeth are striped. Chain links or rollers are damaged, loose pins b) Rear chain adjustment is not in accordance with the manufacturer's specifications. If specifications are not available, the following guideline prevails: On "rigid frame models," there should be a minimum of 12.5 mm (½ inches.) to a maximum of 25 mm (1 inches.) total up and down movement measured at a point midway between the two sprockets on the lower section of the chain. On "swing-arm models," there should be a minimum of 12.5 mm (½ inches.) to a maximum of 50 mm (2 inches) total up and down movement measured midway between the two sprockets on the lower section of the chain
2. Sprocket Inspect for: a) Wear (OEM) b) Bent or missing teeth c) Condition	a) Teeth are stripped b) Sprocket teeth are bent or missing c) Rear sprocket is loose, missing bolts, or cracked
3. Drive Shaft Visually inspect for: a) Leakage b) Wear	a) Drive shaft is leaking fluid b) Exceeds OEM specifications

Item and Method of Inspection	Reject If
1. Steering and Wheel Alignment Visually inspect and adjust according to manufacturer's specifications. Check for condition, adjustment, worn or broken and defective parts. Inspect for: a) Frame b) Steering head bearing c) Handlebars d) Non-slip handlebar grips, Steering stops e) Handlebars in normal riding position f) Wheels	a) Bent b) Loose, broken, defective or out-of-adjustment c) Loose, bent, broken or damaged d) Missing or damaged e) Higher than 380 mm (15 inches) above the saddle f) Out of line
2. Tires, Wheels and Rims Check for condition and mounting of wheels, condition and adjustment of bearings, wear, play and any broken parts. Tire shall have a minimum width of 44.5mm (1.75 inches.) and overall inflated diameter of 431.8 mm (17 inches) when mounted to the rim of the wheel. Visually inspect for: a) Bolts, nuts or lugs b) Wheel c) Rim and wheel flange d) Spokes e) Wheel bearings f) Tires g) Tire tread	a) Loose, missing or defective b) Bent, loose, cracked or damaged c) Defective or missing d) Broken, bent, loose or damaged e) Worn or out of adjustment f) Any cuts evident below tread depth; cuts into cords; any chunking greater than 25 mm (1 inches) g) Cord exposed h) Has any cuts into cord layer i) Leaking j) Less than 1.6mm (2/32 inches) when measured with a tread depth gauge in any two adjacent major tread grooves at three locations spaced approximately equal distance around the outside of the tire

Item and Method of Inspection	Reject If
3. Fuel System Examine fuel system connections, fittings and leakage. Throttle shall be of the twist-grip type located on the right handlebar and shall be self-returning toward low engine or low motor speed in a clockwise direction after release of the right hand. Visually inspect for:	Throttle fails to return to low engine speed.
a) Fuel tank valve control	a) Not located between engine and fuel tank
b) Fuel system	b) Fuel leakage at any joint
c) Fuel tank	c) Not vented. Corrosion on tank
4. Exhaust System Shall be equipped with an exhaust system, incorporating a muffler for the purpose of reducing engine noise. Inspect:	
a) Muffler and exhaust pipe	a) Have breaks, open seams or perforations, or has loose joints that would allow leakage
b) Exhaust system	b) Has cutout or bypass
c) Components	c) Not securely fastened or is located so as to interfere with the operation of the moped
d) Patch or repair jackets	d) Not welded securely and completely around the entire perimeter
e) Muffler	e) Not original factory-installed equipment or equivalent replacement equipment. Any muffler not designed for on-highway use. Internal baffles removed
f) Shielding	f) Not present to prevent inadvertent bodily contact with any part of the exhaust system during normal operation
g) Changes made	g) Any changes made to cause the exhaust to generate louder noise than customary. Baffles removed. Opening widened

Item and Method of Inspection	Reject If
5. Brakes Must be equipped with at least one service brake that may be operated by hand or foot. Manual clutch shall be the "squeeze to engage" type located on the left handlebar. Front wheel brake application shall be of the "squeeze to engage" type located near the right handle grip so that it is operable by the operator's right hand throughout its full range without removal of the operator's hand from the throttle. Rear wheel brake application shall be of the "squeeze to engage" type located near the left handle grip or shall be foot actuated in compliance with the requirements as listed above. The "squeeze to engage" type, if used, shall be operable by the operator's left hand throughout its full range without removal of the operator's left hand from the hand grip. Inspect: a) Pedal	Not present. a) Foot and hand levers which do not have at least one third of their travel as reserve after brakes are fully applied as described below: With the vehicle in standing position, measure the brake travel when 22.6 kg. (50 lb) to 27.2 kg. (60 lb) of pressure have been applied to the pedal.

Item and Method of Inspection	Reject If
6. Lighting and Electrical System Inspect:	
a) Lamps: headlamp, tail lamp, stop & signal lamps: One is required, no more than two permitted. Tail and signal lamps must be red in colour. Stop signal lamp must be activated when brake applied.	a) None or more than two. Not mounted securely. Turned or inclined so that light is not properly directed
b) All headlamps show a clear white light	b) Wrong colour
c) Beam indicators	c) Missing
d) License plate lamp: One is required. Must be white in colour. Rear plate must be visible 15m (49ft.) to the rear. Must be activated by same switch that activates headlamps.	d) Missing. Wrong colour. Rear plate not visible 15m (49ft.) to rear. Not activated by same switch as headlamps
e) Reflex reflectors: must meet requirements of SAE J594. Rear reflector must be red on the vertical centre line. Must have one reflector on each side, one red located as far to the rear as practicable and one amber as far to the front as practicable.	e) Wrong colour. Missing
f) Switches and operating units	f) In poor condition or not functioning properly
g) Wiring	g) In poor condition, improperly installed or insulated, or located so as to incur damage
h) Connections	h) Not secure or shows signs of excessive corrosion
i) Power source	i) Does not maintain lamps at required brightness
7. Horn Must be located on left handlebar. Inspect for condition and operation.	
a) Horn	a) Not securely fastened. Not audible under normal traffic conditions

Item and Method of Inspection	Reject If
8. Body Items Check for required body items defective or dislocated parts and parts projecting from vehicle. Inspect:	
a) Seats designed to carry more than one person	a) Not equipped with rear hand grips and foot rests
b) Fenders and mud guards	b) Broken, missing or of insufficient design • Front and rear: not equivalent to manufacturer's original specifications
c) Foot rests for driver	c) Not securely mounted or insufficient design or improper location
d) Seat • Seat, if designed to carry more than one person	d) Not less than 635 mm (25 inches) above the level road surface, improperly or insecurely attached. • Not equipped with rear hand grips and foot rests
e) Chain and belt guards	e) Insufficient to prevent bodily contact and snagging of clothing
f) Vehicle stand	f) Fails to fold rearward and upward if it contacts the ground when the vehicle is moving forward or fails to retract to fullest point
9. Rear View Mirror Must permit a clear view of the rear. Inspect for mounting, visibility and condition of mirror.	Not secured properly.
a) Mirror	a) Cracked or discolored. Improperly installed. Does not permit clear view