Tune-up & Repair Tips

EXHAUST BRAKES

PROBLEM	DETECTION	REPAIR INSTRUCTIONS (not in order)
(A) Engages but will NOT hold back.	Test for correct exhaust backpressure.	**(1)** Install C10600 test gauge kit. -Consult Pacbrake backpressure chart- Form #L5117 -Road test to set correct backpressure - Form #L5160 Note: Direct Mount™ units use orifice holes and are not adjustable. If pressure is lower than specifications consult Pacbrake factory.
	NO (or LOW) back-pressure -proceed to instruction #2. If backpressure is OK proceed to instruction #6.	**(2)** Pinch bolt loose on actuation arm. (Earlier models only.) -Adjust and tighten as necessary. (Scribed mark on top of shaft indicates butterfly valve position. Non-direct mount models only.) -Actuate cylinder and check for binding, leaking or slow actuation. Repair or replace as necessary.
	Step 2 is OK.	**(3)** Check for an exhaust leak upstream from exhaust brake. -Check welds, clamps and exhaust manifold gaskets. -Repair as necessary and re-test backpressure.
	Step 3 is OK.	**(4)** Insufficient air supply. Check for reservoir pressure. -Check air supply and lines for sufficient pressure. -Check quick release valve for restriction or air loss. -Pacbrake remote compressor operates between 85psi and 105psi. -Correct as necessary and re-test.
	Step 4 is OK.	**(5)** Remove exhaust brake to check: -Butterfly valve bent or no longer attached to shaft. -Close valve to check for even clearance between valve and housing bore. -Replace housing assembly and re-test backpressure. Adjust if necessary.
	Backpressure OK from Step 2	**(6)** Check the transmission torque converter is locking up. Note: (Some transmission models DO NOT have a lock-up torque converter). Consult Service Bulletin #124.
	Step 6 is OK.	**(7)** Driver operating exhaust brake at too low of RPM's. Allison MD3060 requires interface with exhaust brake for automatic down shifting. -Exhaust brake must be operated at high engine RPM. -Down shifting will be necessary to increase engine RPM. -Do not exceed engine manufactures rated RPM. Most engine manufacturer's allow 300 RPM higher than govenor setting on exhaust brake.
(B) Exhaust brake will NOT engage.	Electrical Check Is exhaust brake interfaced with Allison transmission? If YES proceed to step 8. If NO proceed to Step 9.	**(8)** Does transmission still down shift when exhaust brake is activated? If yes proceed to step 10. -No - check Allison interface connections. -check throttle return springs for adequate pressure or missing. -check throttle position sensor signal. Proceed to Step #9
	If Step is 8 OK proceed to Step 9.	**(9)** Check fused power source: Most applications require a 10 amp fuse. -Must have 12 volts to both sides of switches; dash, throttle or foot. -Pacbrake remote compressor requires 20-amp ignition power supply (if applicable). -Replace or adjust as necessary.

PACBRAKE® ENGINE BRAKES

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PROBLEM	DETECTION	REPAIR INSTRUCTIONS (not in order)
	Step 9 is OK.	**(10)** Check voltage to air control solenoid or Pacbrake remote compressor. Exhaust brakes interfaced with Allison MD3060 transmission require road speed to operate. To test in shop separate connector at Pacbrake solenoid and apply 12 volts to solenoid to check activation. -Check solenoid for a good ground. -Repair or replace as necessary.
	Step 10 is OK.	**(11)** Check both throttle return springs for adequate tension. (Must have 2) -Weak or missing spring will cause intermittent operation. -Repair or replace as necessary. Consult Pacbrake Service Bulletin #132
	Check air supply. If vehicle does not have an onboard air system. Proceed to Step 13	**(12)** Air supply must be from the dry air tank. -Inspect all air lines for leaks or internal obstructions. -Ensure air flows through quick release valve to cylinder. -Check for air leaking out of quick release port when brake is applied. -Repair or replace as necessary.
	If vehicle has NO onboard air and uses a Pacbrake remote compressor.	**(13)** Remote compressor air output check: Pacbrake compressor has slow build-up or rapid cycling: -Check solenoid valve or pressure switch for restriction. -Compressor should cut in at 85psi and out at 105psi. If not - replace pressure switch. Pacbrake compressor has no output: -Bench test with 12 volts and 20 amp fused power supply. -Repair or replace as necessary. Consult Service Bulletin #133
	Check mechanical actuation.	**(14)** Remove clevis pin from cylinder clevis: -Actuate cylinder and check for binding, leaking or slow actuation. Repair or replace as necessary. -Rotate butterfly to check for shaft binding in housing assembly. -Replace housing assembly as necessary.
(C) Will NOT disengage.	Check air release.	**(15)** Air release from quick release valve - replace if necessary. -Air release from exhaust port of solenoid - replace if necessary. -Check all air lines for restrictions - repair or replace if necessary. -Check cylinder breather for blockage - replace if necessary.
	Check mechanical release.	**(16)** Actuate cylinder: -Check to ensure arm contacts stop bolt. (In-line mounted adjustable models only.) -Adjust stop bolt out so arm travel is limited by stop bolt head not butterfly valve. -Consult Form #L5117 and Service Bulletin #121
		(17) Remove air cylinder clevis pin. -Rotate butterfly shaft to ensure shaft moves freely. -Replace housing assembly if binding occurs. -Check cylinder movement. Should extend and retract quickly. -Replace if necessary. -Check pivot pin for seizing. Lubricate at re-assembly. -Check cylinder for weak return spring. Replace cylinder if required.

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