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Coding Information

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Title: Engine Low Mount Fan Drive Service Strategy

Applies To: Post 2010 MaxxForce 11L and 13L Engines, and N13 Engines with Low Mount Fan Drive

CHANGE LOG

06/06/2014- Updated Formatting
 06/02/2014- SRTs added for step based operations
 12/02/2013 Article Created

Description

This iKNOW document describes the service strategy for low mount fan drives on 2010- 2013 MaxxForce engines and 2013 and later N13 engines.

Identification

The vehicle will have any of the following complaints/symptoms:

- Looseness or play in engine cooling fan
- Oil leak around front fan hub (This is a driver indicated symptom. If the seal is leaking, and there is no indication of excessive play, then the bearing is not damaged. Please refer to [IK1200529](#) for fan drive seal replacement procedures.)
- Fan drive shaft is in multiple pieces
- Engine fan has hit the radiator

Special Tools

Description	Tool Number	Comments
Extension Tube Installer Large	ZTSE6046	
Extension Tube Installer Small	ZTSE6047	
Fan Seal Installer	ZTSE6066	
Front Crankshaft Seal Installer	ZTSE4873	
		Obtain Locally

P-80 Rubber Lubricant or Equivalent		
Slide Hammer		Obtain Locally

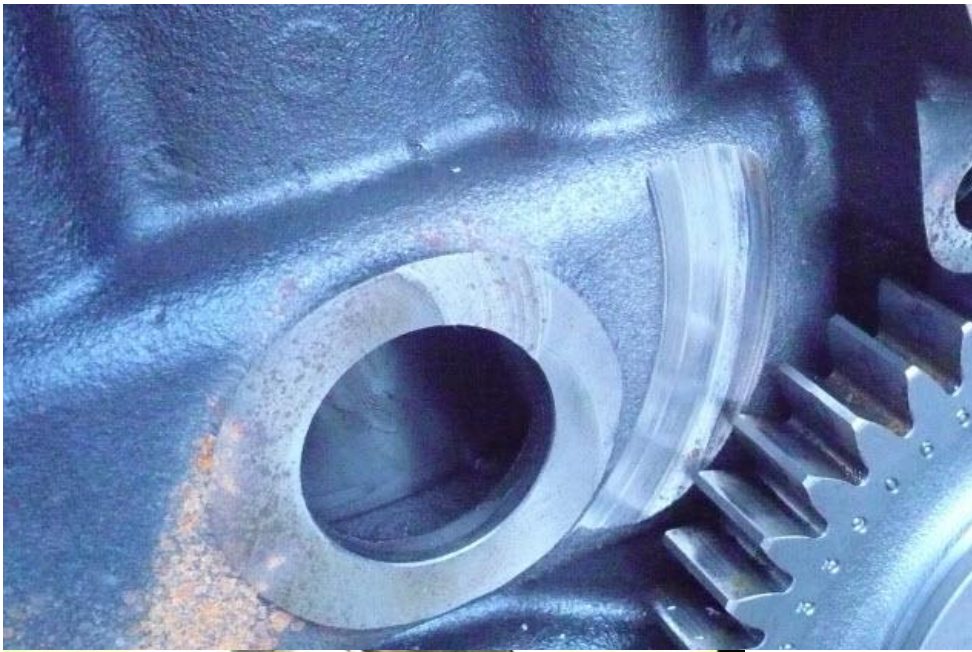
Service Strategy

Step	Fan Drive Failure Step By Step Service Strategy	Yes	No
1	Remove the front cover to expose the fan drive. Inspect for gear contact to the engine block	Go to next step	Replace the fan drive per the service manual
2	Contact Tech Services	Go to next step	
3	Remove the engine oil pump. Is any damage found to the oil pump?	Go to next step	Replace the fan drive. Remove the engine oil pan and clean out any debris found. Replace engine oil filter and Bypass Centrifugal oil filter element, and flush housing.
4	Remove engine oil filter, cut open, and inspect for metal. Are metal flakes found in the oil filter?	Go to next step	Replace the fan drive, the oil pump and the oil filter. Remove the engine oil cooler and flush thoroughly. Remove engine oil pan and clean out debris. Replace engine oil filter and Bypass Centrifugal oil filter element, and flush housing.
5	Remove engine oil pan, and remove the second rod and main caps and inspect the bearings for damage. Is there any damage found?	Go to next step	Replace the fan drive, the oil pump and the oil

			filter. Remove the engine oil cooler and flush thoroughly. Reinstall main and rod caps with original bearings, and reinstall engine oil pan. Replace engine oil filter and Bypass Centrifugal oil filter element, and flush housing.
6	Is there damage to the bearings only?	Replace all main and rod bearings. Replace the fan drive, the oil pump and the oil filter. Remove the engine oil cooler and flush thoroughly and reinstall engine oil pan. Replace engine oil filter and Bypass Centrifugal oil filter element, and flush housing.	Contact Tech Services

Engine Block Examples

Below are photos showing serviceable engine blocks. These engine blocks should be reused, and will not loose performance/ longevity.



Engine Oil Pump Examples

Below are photos showing the damage to an oil pump. If there are any deformities found, the oil pump should be replaced.



Engine Oil Filter Example

Below is a photo showing the metal in an oil filter.



Engine Bearing Examples

Below are photos showing examples of bearings that can be reused and bearings that need to be replaced.

Reuse



Replace



Additional Resources

[Master Engine Service Manual](#)

SRTs

Step	Code	Hours	Group	Noun	Description
1-No	Click Here-Varies by Model	Varies	12000	742	COOLING FAN DRIVE , REPLACE
3-No	Click Here-Varies by Model	Varies	12000	742	ENGINE OIL PUMP, REPLACE OR INSPECT
	Click Here- Varies by Model	Varies			OIL PAN AND/OR GASKET, REPLACE
	A12-1889U	0.6			ENGINE OIL AND FILTER, CHANGE
	A12-4653A	0.3			SOOT CENTRIFUGE FILTER (CHASSIS MOUNTED), REPLACE
4-No	Click Here-Varies by Model	Varies	12000	742	ENGINE OIL PUMP, REPLACE OR INSPECT
	Click Here- Varies by Model	Varies			OIL PAN AND/OR GASKET, REPLACE
	Click Here- Varies by Model	Varies			OIL COOLER ASSEMBLY, REPLACE
	A12-4653A	0.3			SOOT CENTRIFUGE FILTER (CHASSIS MOUNTED), REPLACE
5-No	Click Here-Varies by Model	Varies	12000	742	ENGINE OIL PUMP, REPLACE OR INSPECT

	Click Here- Varies by Model	Varies			OIL PAN AND/OR GASKET, REPLACE
	A12-1213A-20	0.4			ENGINE BEARING, INSPECTION
	Click Here- Varies by Model	Varies			OIL COOLER ASSEMBLY, REPLACE
	A12-4653A	0.3			SOOT CENTRIFUGE FILTER (CHASSIS MOUNTED), REPLACE
6-Yes	Click Here-Varies by Model	Varies	12000	742	ENGINE OIL PUMP, REPLACE OR INSPECT
	Click Here- Varies by Model	Varies			OIL PAN AND/OR GASKET, REPLACE
	A12-1192U-1	0.3			CONNECTING ROD BEARINGS, REPLACE EACH(FILE 6 TIMES)
	A12-1192U-2	2.5			CRANKSHAFT MAIN BEARINGS, REPLACE
	Click Here- Varies by Model	Varies			OIL COOLER ASSEMBLY, REPLACE
	A12-4653A	0.3			SOOT CENTRIFUGE FILTER (CHASSIS MOUNTED), REPLACE



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