

Tier-3 Product Plan

October 2008



**Fire
Power**

EPA CI NSPS NPRM (49 States) Fire Pump Engines – Standards & Effect Dates

kW (HP)	Certification (Lag after nonroad effect date)					
	7/1/06	2007	2008	2009	2010	2011
<37 (<49)	Tier 1 Modified 10.5 / 5.0 / 0.80					Tier 3 (3 yr)
37-74 (49-99)	Tier 1 Modified 10.5 / 5.0 / 0.80					Tier 3* (3 yr)*
75-129 (100-173)	Tier 1 Modified 10.5 / 5.0 / 0.80				Tier 3* 4.0 / 5.0 / 0.30 (3 yr)*	
130-449 (174-602)	Tier 1 Modified 10.5 / 3.5 / 0.54			Tier 3* 4.0 / 3.5 / 0.20 (3 yr)*		
450-560 (603-751)	Tier 1 Modified 10.5 / 3.5 / 0.54			Tier 3 4.0 / 3.5 / 0.20 (3 yr)		
> 560 (> 751)	Tier 1 Modified 10.5 / 3.5 / 0.54		Tier 2 6.4 / 3.5 / 0.20			

Standards shown as NMHC+NOx / CO / PM (g/kW-hr)

* Tier 3 effective three years later than shown for engines rated > 2650 rpm

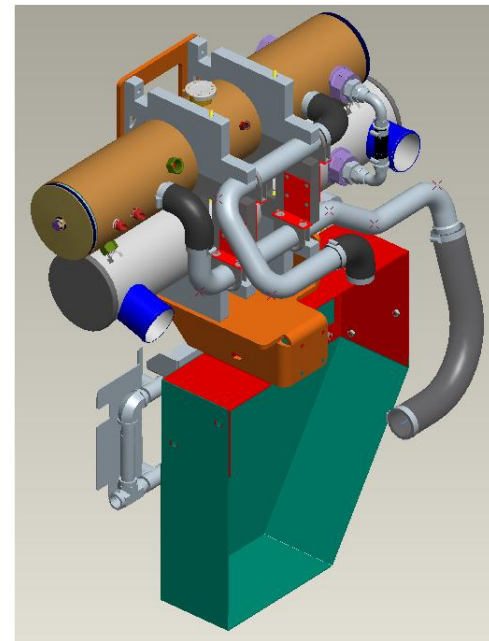
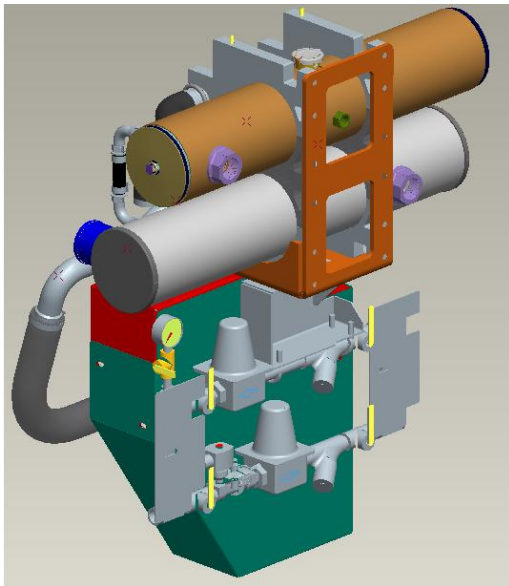
CARB section 93115, title 17, California Code of Regulations, Fire Pump Engines – Standards & Effect Dates

kW (HP)	Interim Period		Certification (Lag after nonroad effect date)			
	7/1/06	2007	2008	2009	2010	2011
38-74 (51-99)	Tier 2 7.5 / 5.0 / 0.40					Tier 3* (3 yr)*
75-129 (100-173)	Tier 2 6.6 / 5.0 / 0.30				Tier 3* 4.0 / 5.0 / 0.30 (3 yr)*	
130-449 (174-602)	Tier 2 6.6 / 3.5 / 0.20			Tier 3* 4.0 / 3.5 / 0.20 (3 yr)*		
450-560 (603-751)	Tier 2 6.4 / 3.5 / 0.20			Tier 3 4.0 / 3.5 / 0.20 (3 yr)		
> 560 (> 751)	Tier 2 6.4 / 3.5 / 0.20					Tier 4i

Standards shown as NMHC+NOx / CO / PM (g/kW-hr)

* Tier 3 effective three years later than shown for engines rated > 2650 rpm

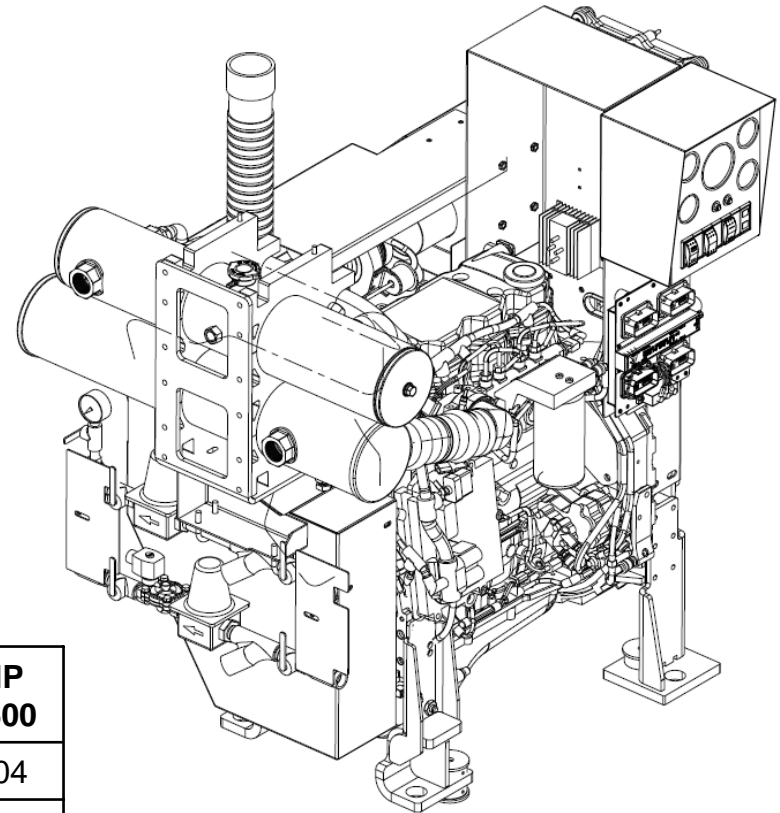
New Cooling System Design



Charge Air Cooler and Jacket Water heat exchanger stack
Easy assembly and maintenance

CFP5E

- QSB4.5 Cummins model
- 4.5L 4 cylinder engine
- 84 to 155 HP
- 1470 to 2600 RPM
- EPA Tier-3 Certified
- **Ok with high sulfur diesel fuel**
- Same footprint as CFP39
- Soft mount – vibration isolator legs

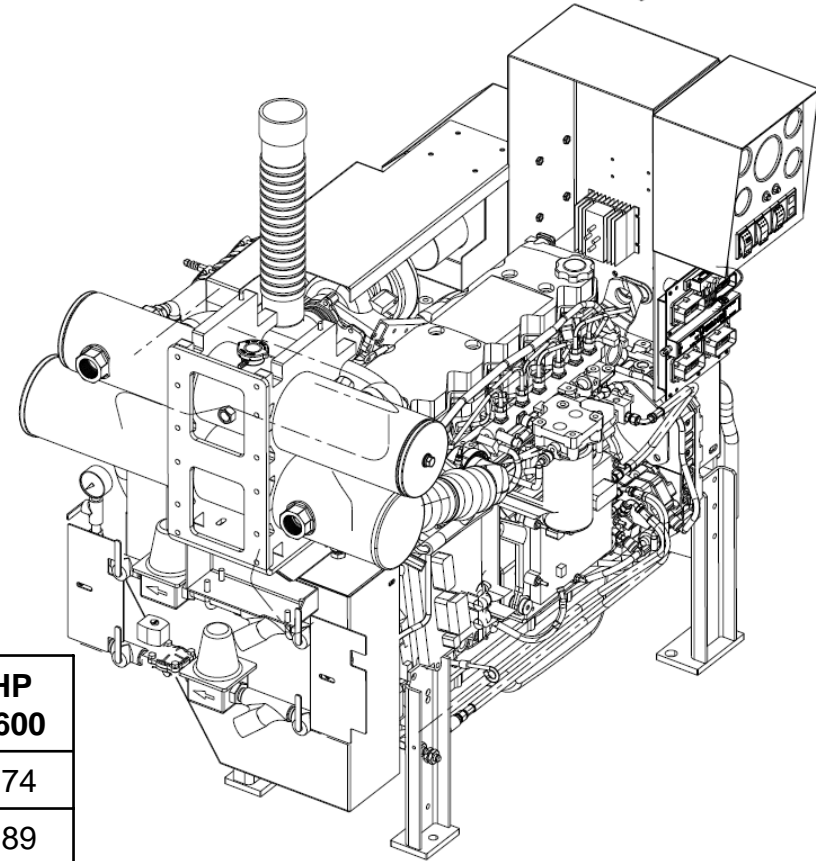


Model	Tier	HP 1470	HP 1760	HP 1900	HP 2100	HP 2350	HP 2600
CFP5E-F10	3	84	98	95	101	105	104
CFP5E-F20	3	94	101	107	113	118	117
CFP5E-F30	3	104	121	118	125	130	129
CFP5E-F40	3	114	133	129	136	143	141
CFP5E-F50	3	124	144	140	148	155	154

Actual ratings are pending UL & FM testing

CFP7E

- Cummins QSB6.7
- 6.7L 6 cylinder engine
- 175 to 250 HP
- 1470 to 2600 RPM
- EPA Tier-3 Certified
- **OK with high sulfur fuel**
- Same footprint as CFP59/6E

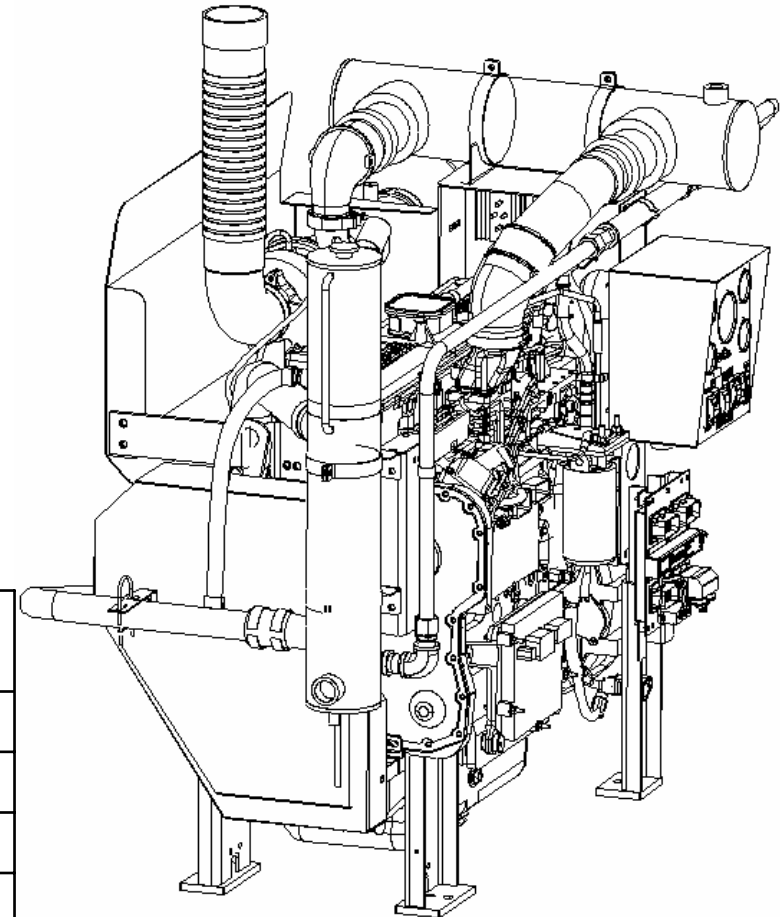


Model	Tier	HP 1470	HP 1760	HP 1900	HP 2100	HP 2350	HP 2600
CFP7E-F10	3	175	175	156	166	168	174
CFP7E-F20	3	190	190	169	181	183	189
CFP7E-F30	3	205	205	183	195	197	204
CFP7E-F40	3	220	220	196	209	211	219
CFP7E-F50	3	235	235	209	224	226	234
CFP7E-F60	3	250	250	223	238	240	249

Actual ratings are pending UL & FM testing

CFP9E

- Cummins QSL9
- 8.9L 6 cylinder engine
- 215 to 399 HP
- 1470 to 2300 RPM
- EPA Tier-3 Certified
- **OK with high sulfur fuel**
- Same footprint as CFP83

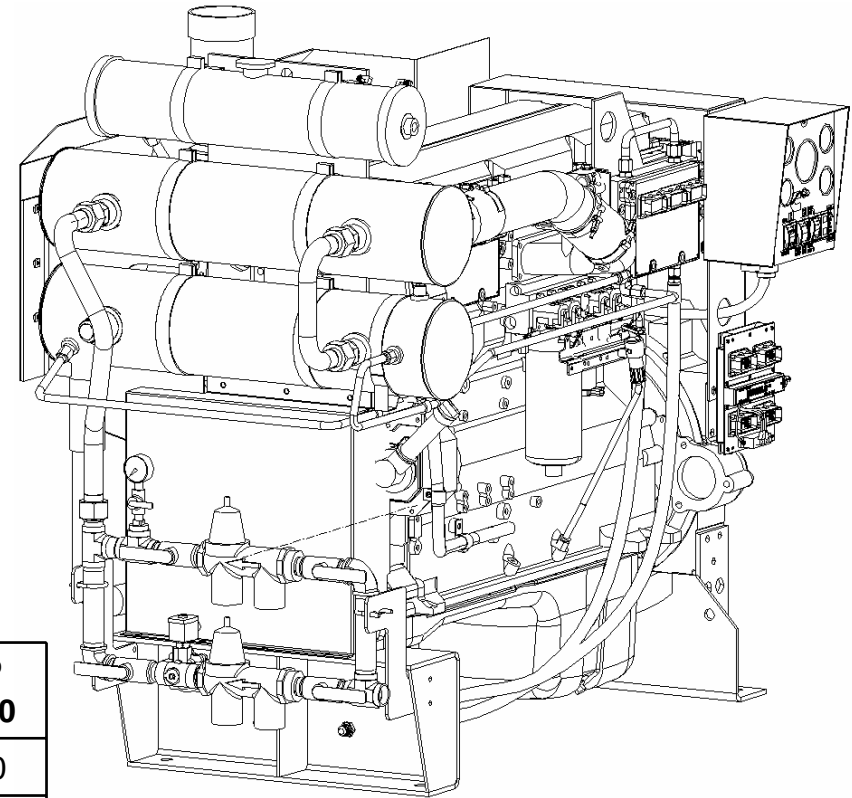


Model	Tier	HP 1470	HP 1760	HP 1900	HP 2100	HP 2300
CFP9E-F10	3	215	260	275	246	212
CFP9E-F20	3	233	282	299	268	230
CFP9E-F30	3	252	305	323	289	248
CFP9E-F40	3	271	327	347	311	267
CFP9E-F50	3	289	350	371	332	285
CFP9E-F60	3	311	376	399	357	307

FM ratings are shown. Actual ratings are pending UL listing.

CFP15E

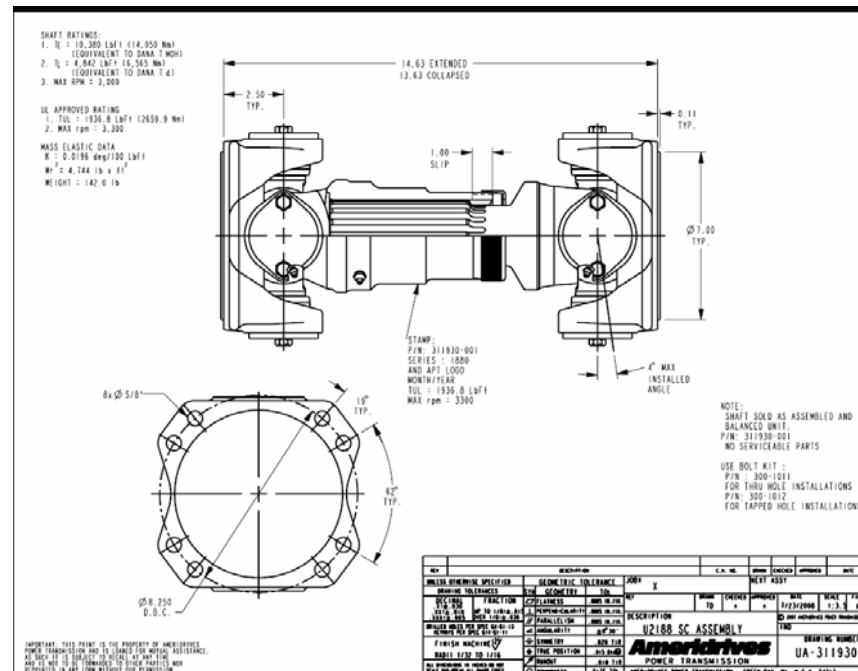
- Cummins QSX15
- 15L 6 cylinder engine
- 382 to 610 HP
- 1470 to 2250 RPM
- EPA Tier-3 Certified
- **OK with high sulfur fuel**



Model	Tier	HP 1470	HP 1760	HP 1900	HP 2100	HP 2250
CFP15E-F10	3	382	460	488	488	380
CFP15E-F20	3	411	494	524	525	409
CFP15E-F30	3	450	542	575	575	448
CFP15E-F40	3	477	575	610	610	475

UL Listed Drive-Shafts

- Join venture with Ameridrives
- UL Listed Spicer shafts from 1410 to 1880
- Speeds up to 3000 RPM



UL Listed Drive-Shafts

Drive-Shaft Listing					
Model	Design	UL/FM Testing Status	UL Listed	Accept Order	1st Ship
1410		Comp.	2-Jan	2-Jan	1-Feb
1480		Comp.	2-Jan	2-Jan	1-Feb
1550		10-Nov	8-Feb	8-Feb	10-Mar
1610		Comp.	2-Jan	2-Jan	1-Feb
1710		20-Oct	18-Jan	18-Jan	17-Feb
1810		20-Oct	18-Jan	18-Jan	17-Feb
1880		20-Oct	18-Jan	18-Jan	17-Feb