

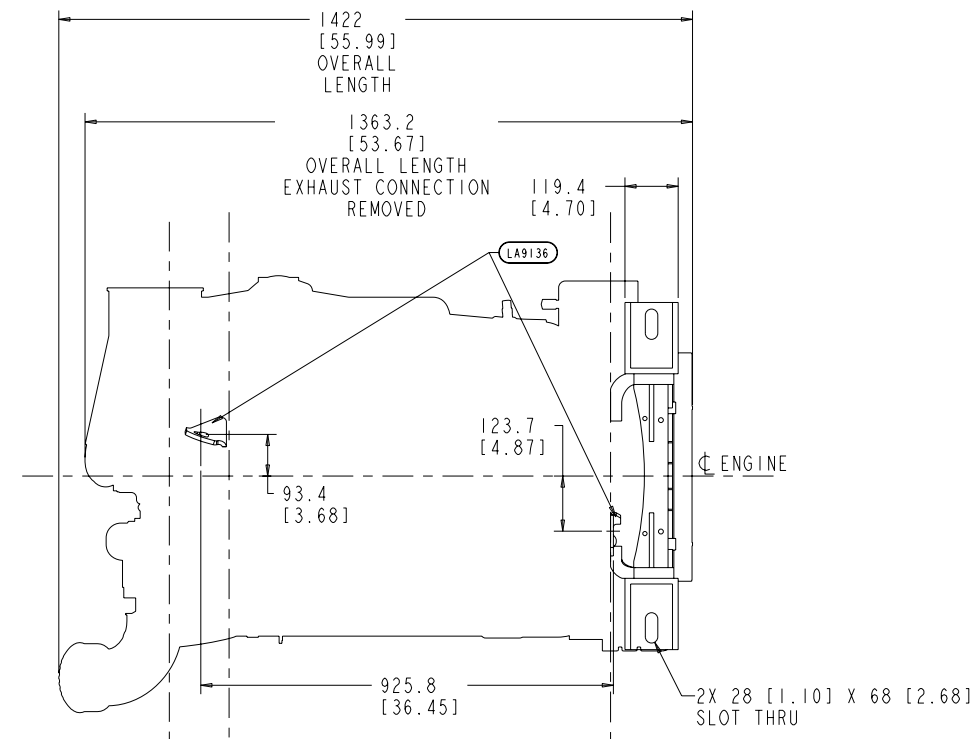
ITEM NUMBER
3170591

REVISIONS			
ZONE	REV	DESCRIPTION	APP'D
02	OSL9-HX		

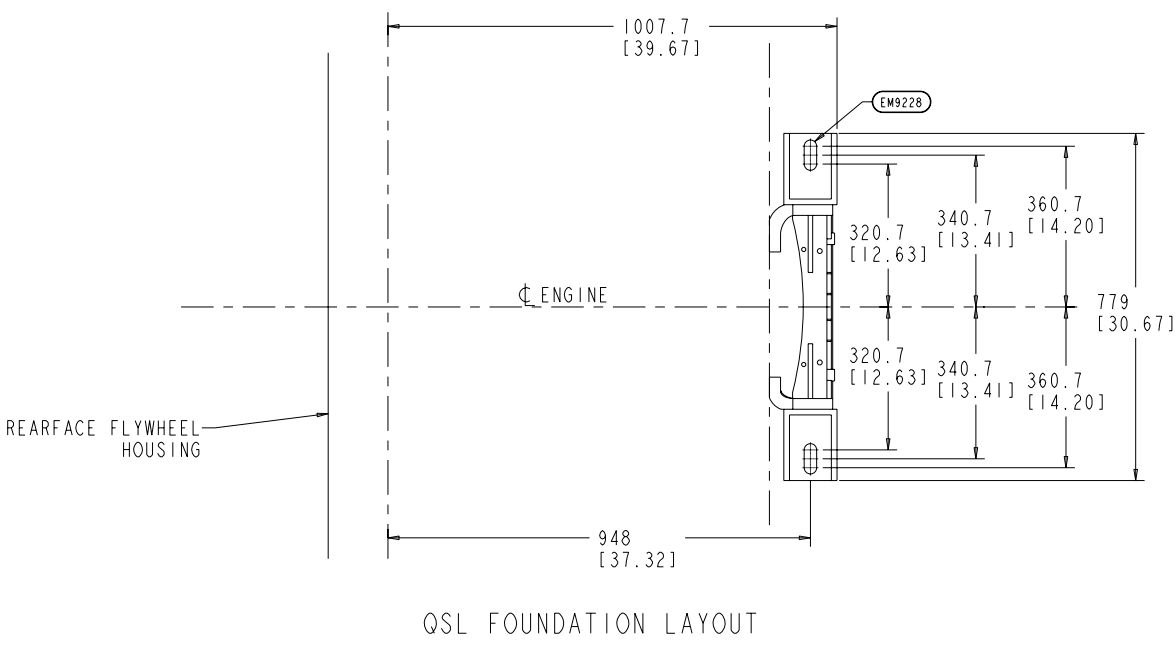
UNCONTROLLED COPY

TABLE OF CONTENTS

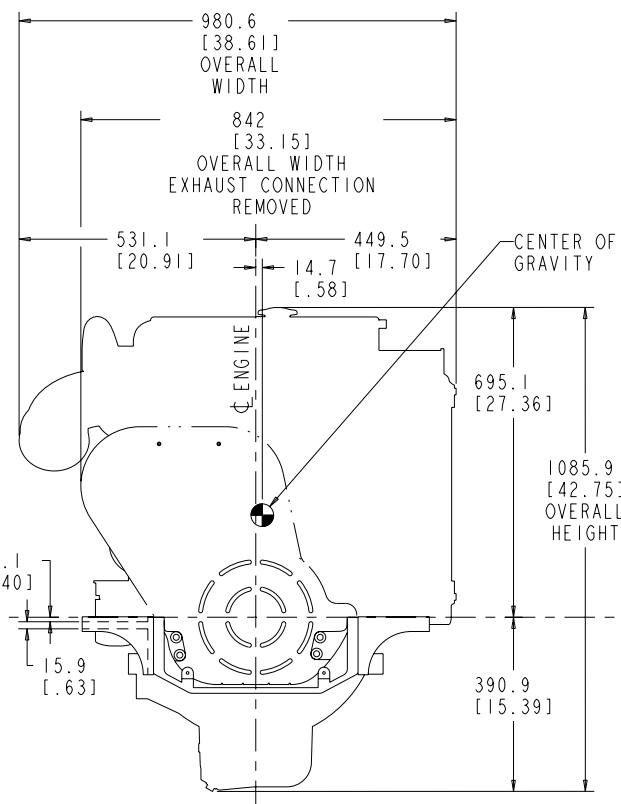
DRAWING / SUB-SYSTEM	SHEET
DIMENSION OUTLINE	1
ASSEMBLY DRAWING	2
ACCESSORY DRIVES & PTOS	3-4
AIR INDUCTION SYSTEM	5
COOLING SYSTEM	6-8
ELECTRICAL SYSTEM	9-10
EXHAUST SYSTEM	11
FUEL SYSTEM	12-13
LUBE OIL SYSTEM	14-17
MOUNTING SYSTEM	18-20
STARTING SYSTEM	21



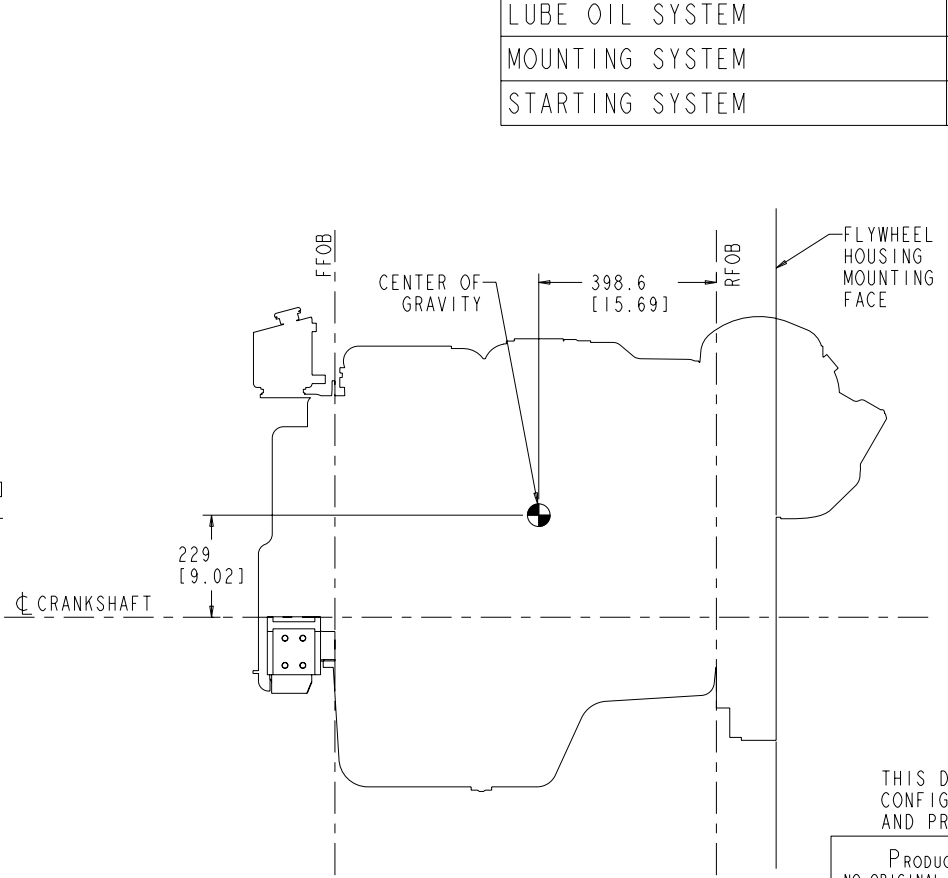
TOP VIEW



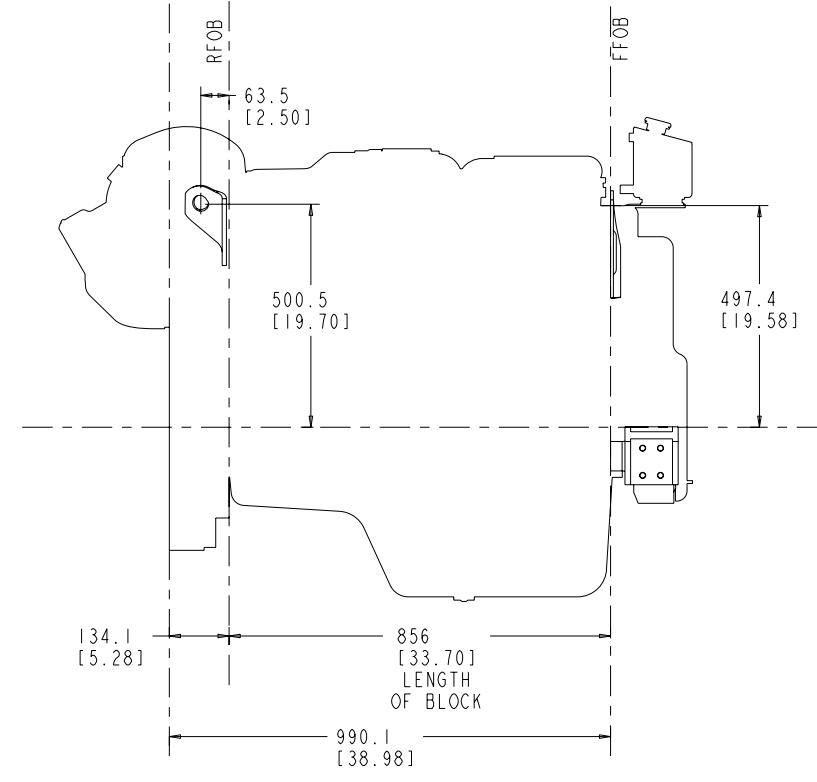
QSL FOUNDATION LAYOUT



FRONT VIEW



PORT VIEW



STARBOARD VIEW

THIS DRAWING IS BASED ON CONFIGURATION D563005MX03 AND PRICE SPEC. #2913

PRODUCT GRAPHICS FILE
NO ORIGINAL DRAWING EXISTS FOR THIS ITEM. THE ENGINEERING GRAPHICS DATA FOR THIS ITEM RESIDES IN THE PRODUCT GRAPHICS FILE AND IS CONTROLLED BY THE AGENCY DESIGNATED AS HAVING ITEM CONTROL.

CUMMINS INC.

ITEM NAME
QSL9-HX

IDENTIFIER
INSTALLATION DIAGRAM

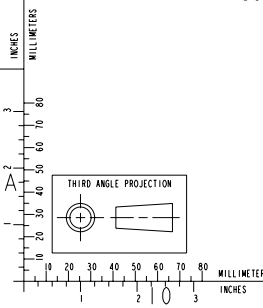
SIZE CODE IDENT. NO. ITEM NUMBER
3170591

SCALE: 2:1 ITEM CONTROL: MCS SHEET 1 OF 21

DO NOT SCALE THIS DRAWING

THIS DRAWING/DATA FILE (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE USED, DISCLOSED TO OTHERS, OR REPRODUCED BY ANY MEANS FOR ANY PURPOSE IN HARD COPY FORM OR IN MACHINE READABLE FILES, WITHOUT WRITTEN CONSENT OF CUMMINS INC., MARKETING CAD SERVICES DEPARTMENT.

LAST SECTION LETTER USED: A	REF. DRAWING STANDARDS: ANSI Y14.5M ISO 81101
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN: MILLIMETERS () ARE IN: INCHES	
DWN: TMO/TGANG	SCALE: 2:1
CHD: UNCHECKED	ITEM CONTROL: MCS
APPD:	SHEET 1 OF 21

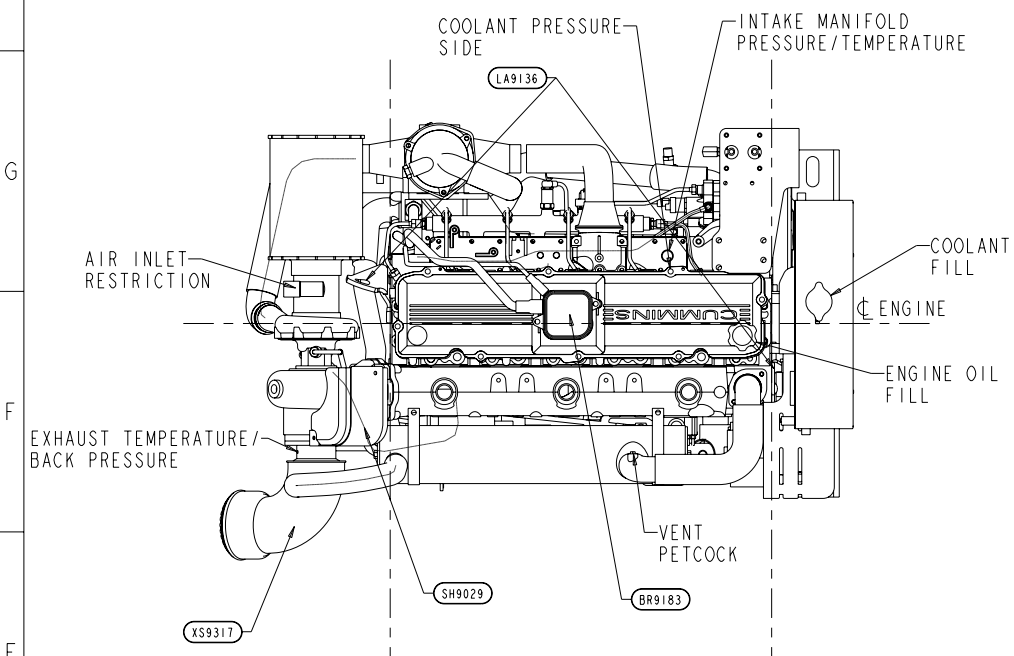


INCHES
MILLIMETERS

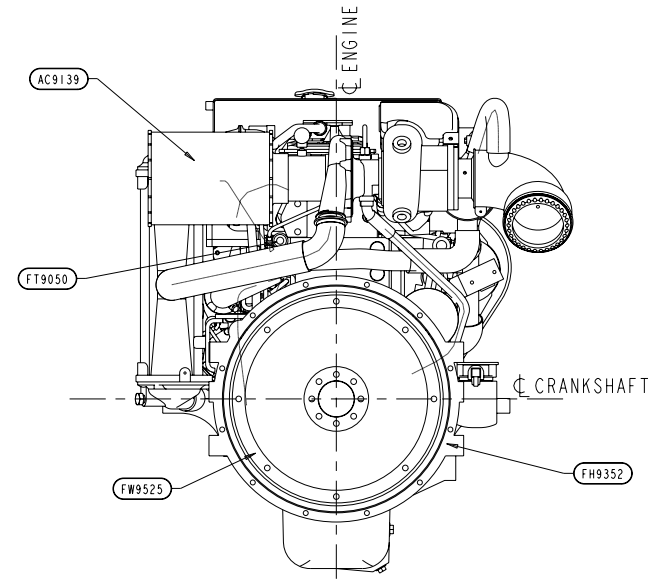
ITEM NUMBER
3170591

REVISIONS			
ZONE	REV	DESCRIPTION	APP'D
02	OSL9-HX		

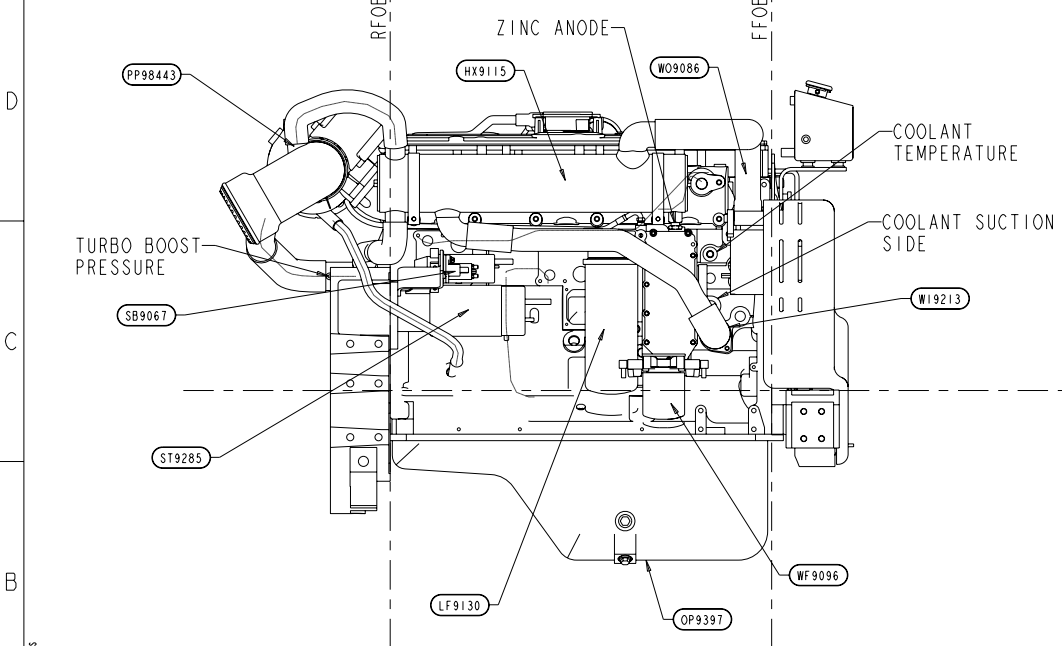
UNCONTROLLED COPY



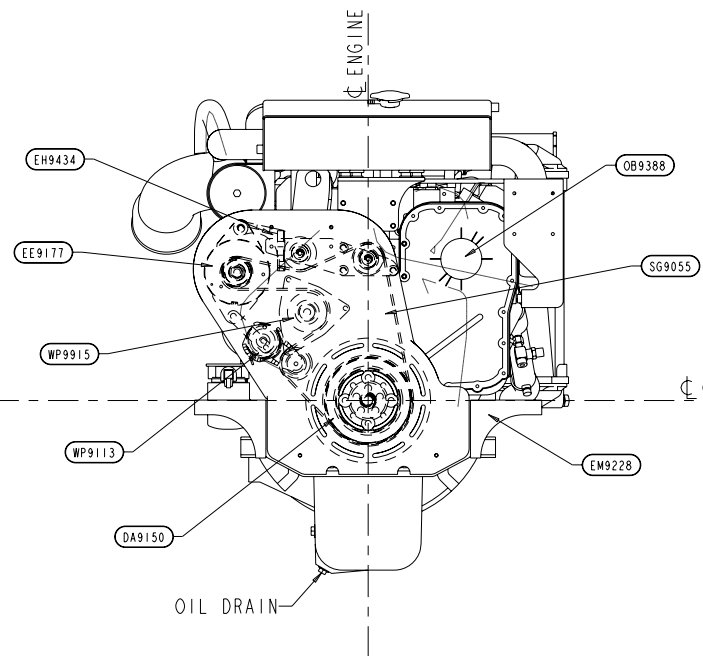
TOP VIEW



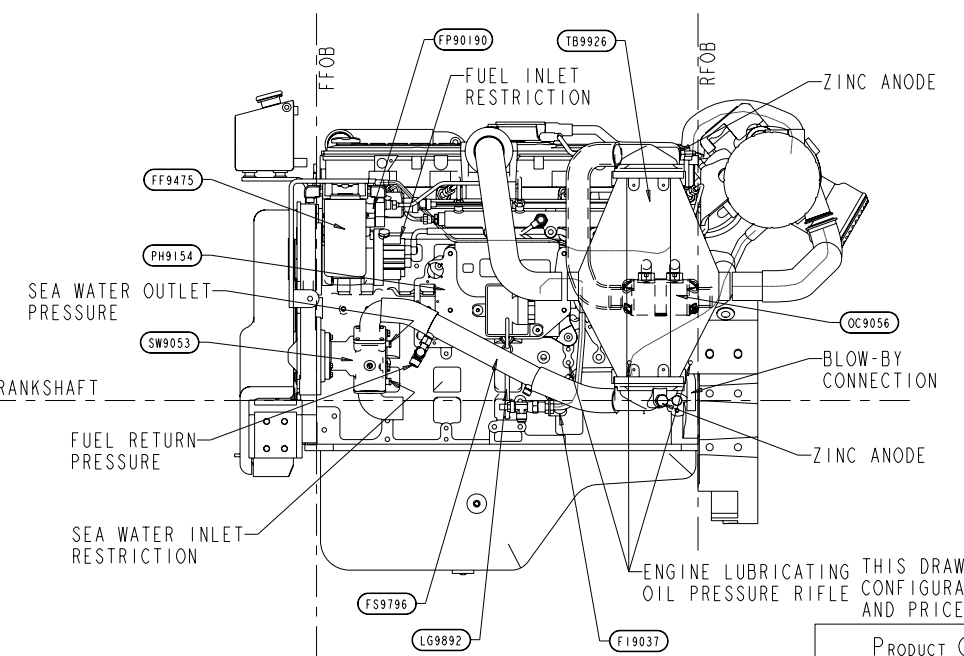
BACK VIEW



STARBOARD VIEW



FRONT VIEW



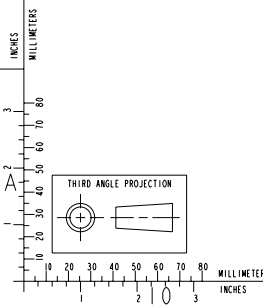
PORT VIEW

ENGINE SERVICE TEST PORTS

AIR INLET RESTRICTION:	1/8-27 NPT	ENGINE OIL DRAIN FRONT:	M18 X 1.5	SEA WATER INLET RESTRICTION:	1/4-18 NPT
BLOW-BY CONNECTION:	Ø19.1 [0.75] O.D.	ENGINE OIL DRAIN REAR:	N/A	SEA WATER OUTLET PRESSURE:	1/4-18 NPT
COOLANT FILL:	F8	ENGINE OIL FILL:	29.5 [1.16], F8	TURBO BOOST PRESSURE:	M8 X 1.25
COOLANT PRESSURE SIDE:	1/2 NPT	EXHAUST TEMPERATURE/BACK PRESSURE:	1/8 NPT	VENT PETCOCK:	1/8 NPT
COOLANT SUCTION SIDE:	3/4 NPT	FUEL INLET RESTRICTION:	M10	ZINC ANODE:	3X 1/2 NPT
COOLANT TEMPERATURE:	M14 X 1.5	FUEL RETURN PRESSURE:	1/4 NPT		
ENGINE LUBRICATING OIL PRESSURE:	M10 X 1.0	INTAKE MANIFOLD PRESSURE/TEMPERATURE:	3/4 NPT		

THIS DRAWING IS BASED ON OIL PRESSURE RIFLE CONFIGURATION D563005MX03 AND PRICE SPEC. #2913

PRODUCT GRAPHICS FILE NO ORIGINAL DRAWING EXISTS FOR THIS ITEM. THE ENGINEERING GRAPHICS DATA FOR THIS ITEM RESIDES IN THE PRODUCT GRAPHICS FILE AND IS CONTROLLED BY THE AGENCY DESIGNATED AS HAVING ITEM CONTROL.



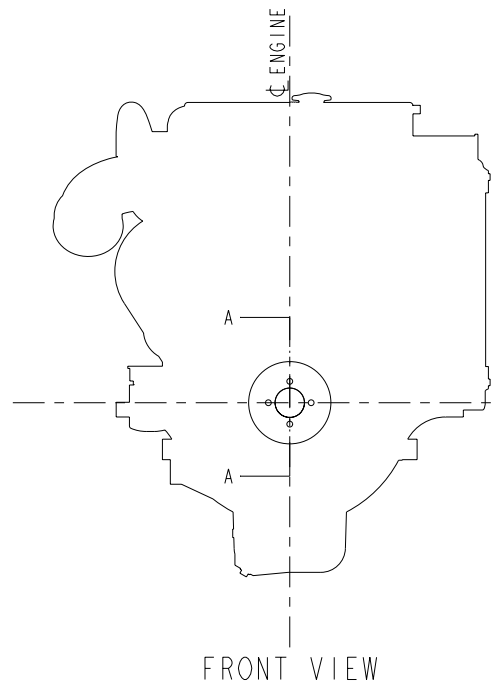
DO NOT SCALE THIS DRAWING

THIS DRAWING/DATA FILE (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE USED, DISCLOSED TO OTHERS, OR REPRODUCED BY ANY MEANS FOR ANY PURPOSE IN HARD COPY FORM OR IN MACHINE READABLE FILES, WITHOUT WRITTEN CONSENT OF CUMMINS INC., MARKETING CAD SERVICES DEPARTMENT.

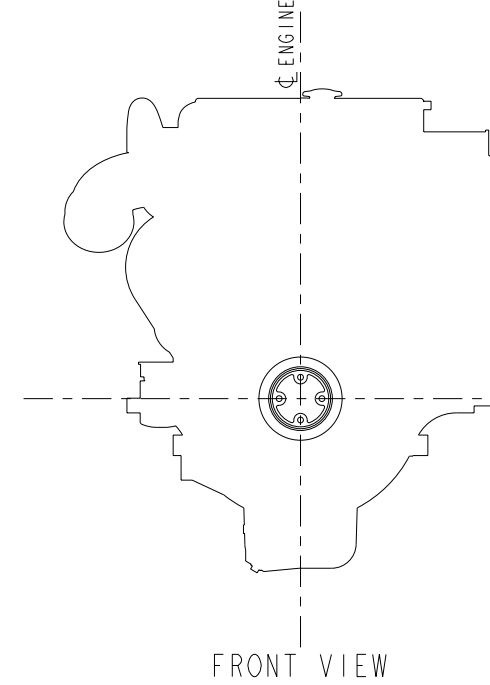
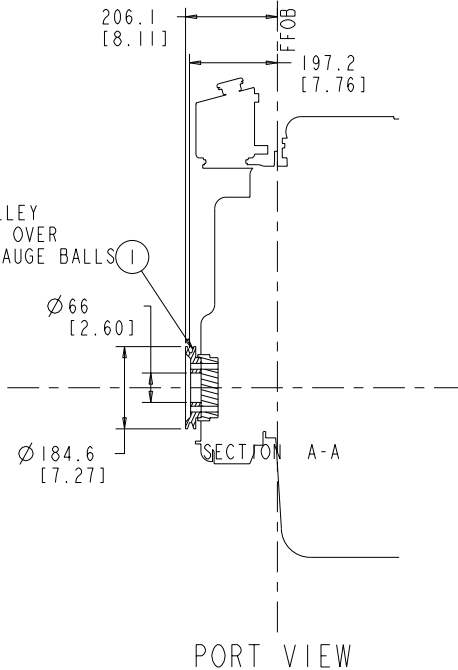
LAST SECTION LETTER USED:	REF. DRAWING STANDARDS:	CUMMINS INC.	
A	ANSI Y14.5M ISO 81101	ITEM NAME:	OSL9-HX
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN: MILLIMETERS () ARE IN: INCHES	IDENTIFIER:	INSTALLATION DIAGRAM	
DWN: UNCHECKED	SIZE CODE IDENT. NO.:	ITEM NUMBER:	3170591
APPD: UNCHECKED	SCALE: 2:1	ITEM CONTROL:	MCS
		SHEET 2 OF 21	

ITEM NUMBER
3170591

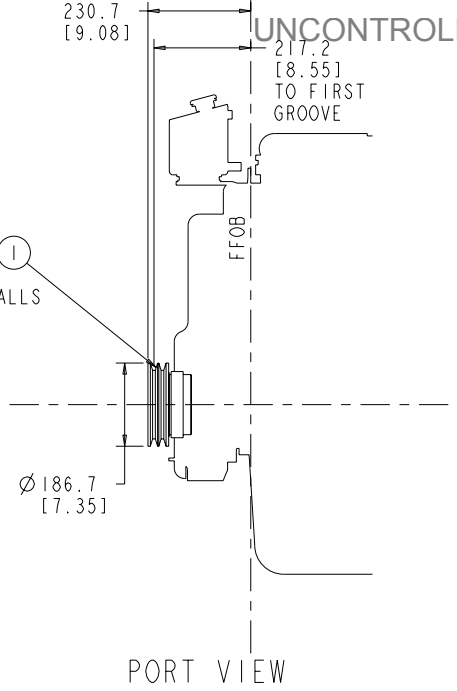
REVISIONS		OWN	APP'D
ZONE	REV	DATE	
02	OSL9-HX	03-27-97	



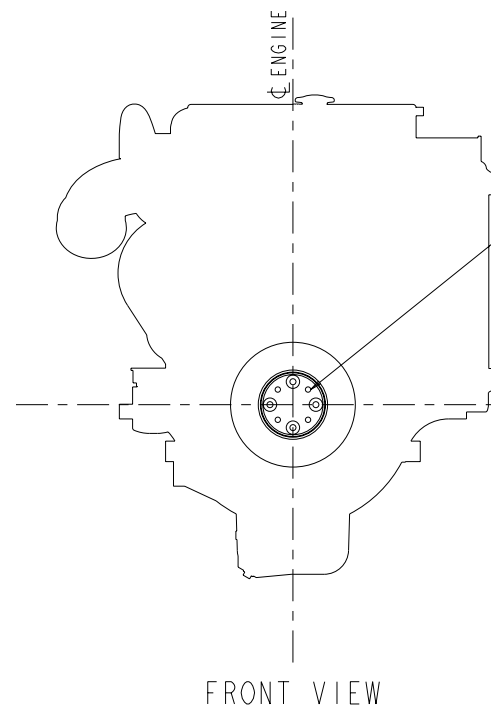
AF9141



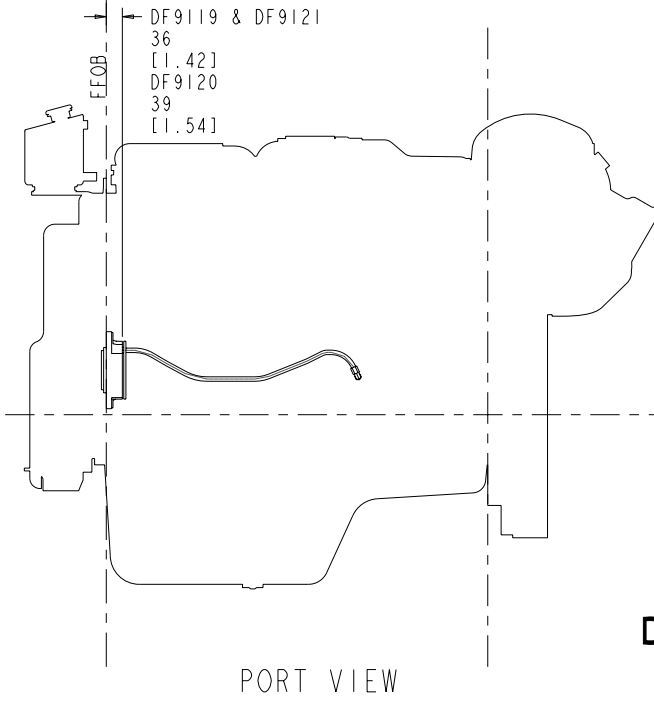
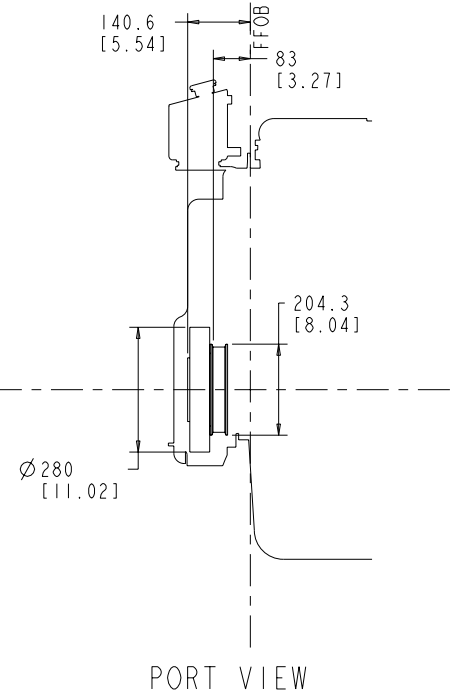
AF9142



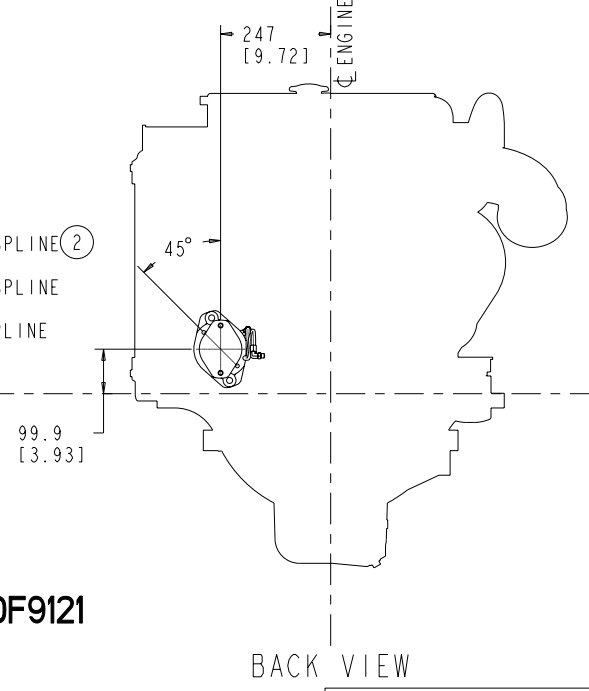
UNCONTROLLED COPY



DA9150



DF9119/DF9120/DF9121



DA9119
SAE "A" 11 TOOTH SPLINE (2)
DF9120
SAE "B" 13 TOOTH SPLINE
DF9121
SAE "A" 9 TOOTH SPLINE

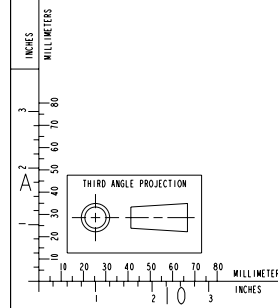
PRODUCT GRAPHICS FILE
NO ORIGINAL DRAWING EXISTS FOR THIS ITEM. THE ENGINEERING GRAPHICS DATA FOR THIS ITEM RESIDES IN THE PRODUCT GRAPHICS FILE AND IS CONTROLLED BY THE AGENCY DESIGNATED AS HAVING ITEM CONTROL.

LAST SECTION LETTER USED: A	REF. DRAWING STANDARDS: ANSI Y14.5M ISO 81101	ITEM NAME CUMMINS INC.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN: MILLIMETERS () ARE IN: INCHES	IDENTIFIER QSL9-HX	ITEM NUMBER 3170591
DWN: TMO/TGANG CHD: UNCHECKED APPD:	SCALE: 2:1	ITEM CONTROL: MCS SHEET 3 OF 21

DO NOT SCALE THIS DRAWING
THIS DRAWING/DATA FILE (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE USED, DISCLOSED TO OTHERS, OR REPRODUCED BY ANY MEANS FOR ANY PURPOSE IN HARD COPY FORM OR IN MACHINE READABLE FILES, WITHOUT WRITTEN CONSENT OF CUMMINS INC., MARKETING CAD SERVICES DEPARTMENT.

ACCESSORY DRIVES & PTO'S

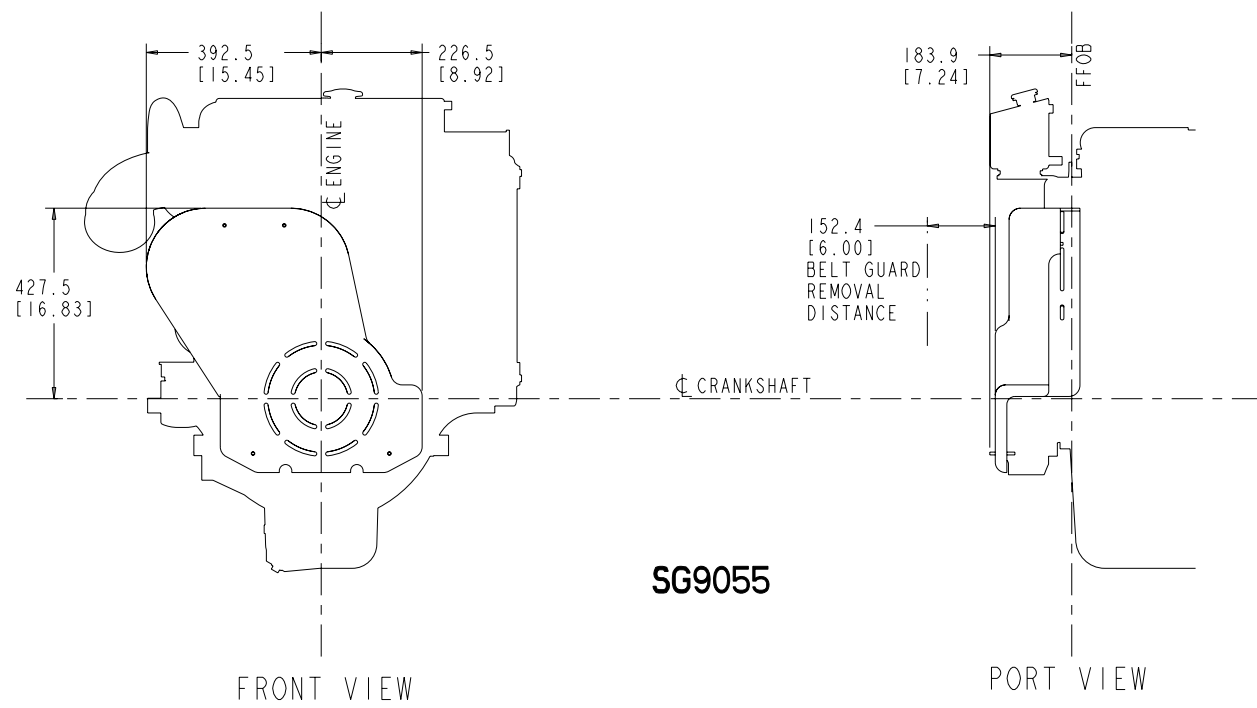
- 1 BELT DRIVE CONNECTION
- 2 DRIVE CONNECTION BOLT PATTERN
- 3 PTO FLYWHEEL HOUSING BOLT PATTERN - N/A



ITEM NUMBER
3170591

REVISIONS			
ZONE	REV	DESCRIPTION	APP'D
02	OSL9-HX		

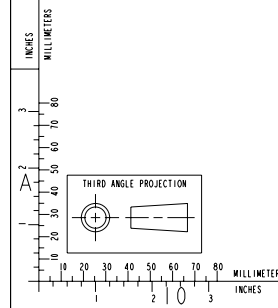
UNCONTROLLED COPY



SG9055

FRONT VIEW

PORT VIEW



- ① BELT DRIVE CONNECTION
- ② DRIVE CONNECTION BOLT PATTERN
- ③ PTO FLYWHEEL HOUSING BOLT PATTERN - N/A

DO NOT SCALE THIS DRAWING

THIS DRAWING/DATA FILE (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE USED, DISCLOSED TO OTHERS, OR REPRODUCED BY ANY MEANS FOR ANY PURPOSE IN HARD COPY FORM OR IN MACHINE READABLE FILES, WITHOUT WRITTEN CONSENT OF CUMMINS INC., MARKETING CAD SERVICES DEPARTMENT.

PRODUCT GRAPHICS FILE
NO ORIGINAL DRAWING EXISTS FOR THIS ITEM. THE ENGINEERING GRAPHICS DATA FOR THIS ITEM RESIDES IN THE PRODUCT GRAPHICS FILE AND IS CONTROLLED BY THE AGENCY DESIGNATED AS HAVING ITEM CONTROL.

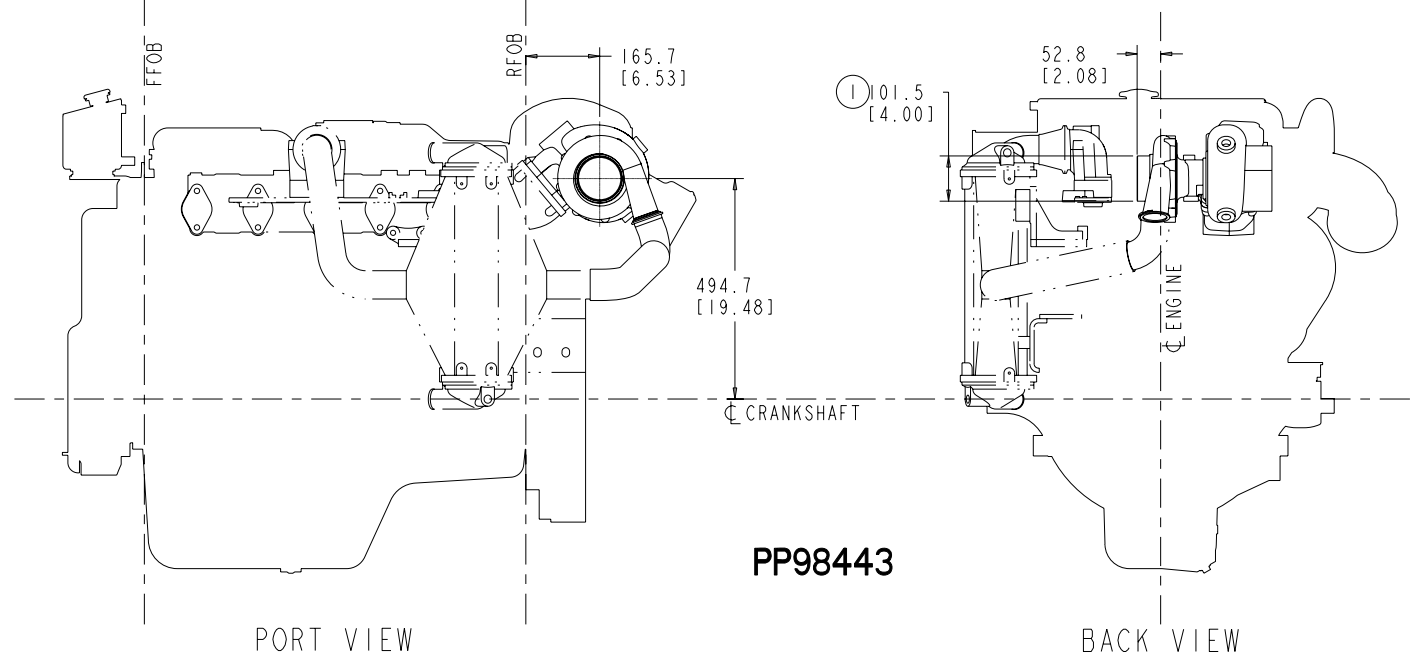
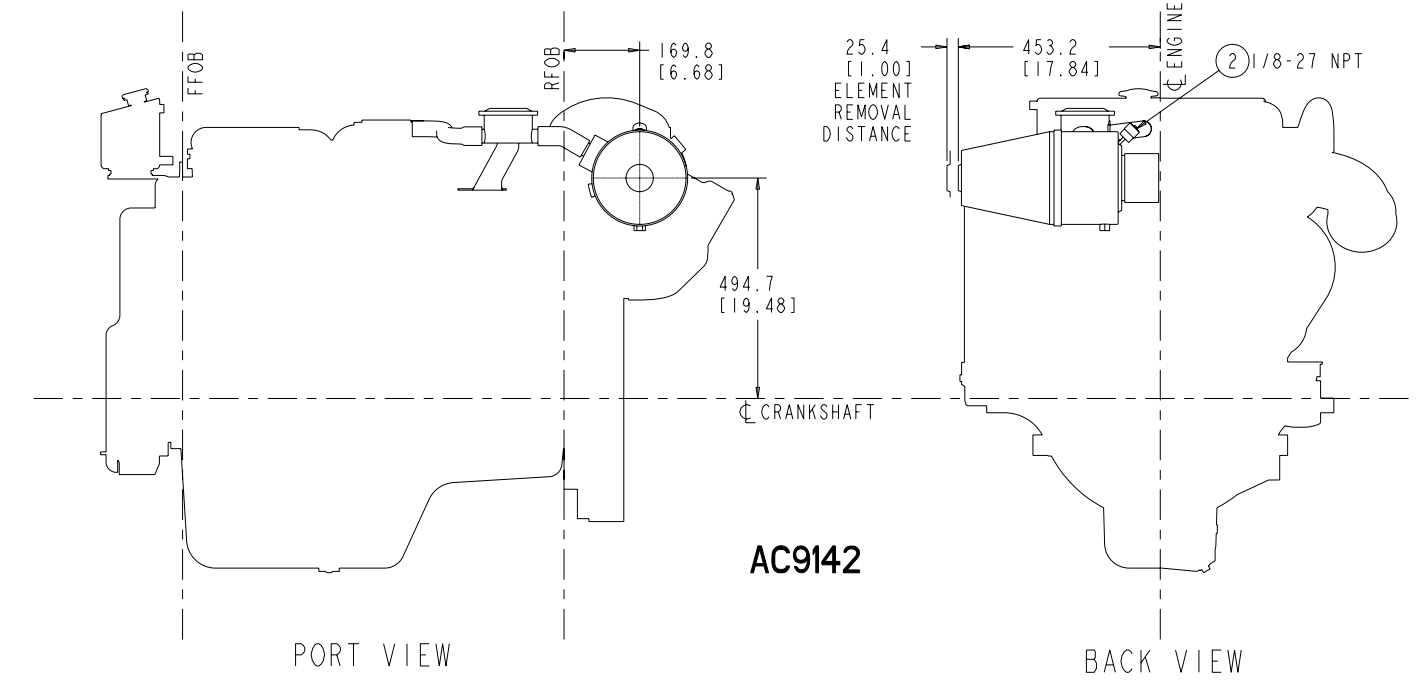
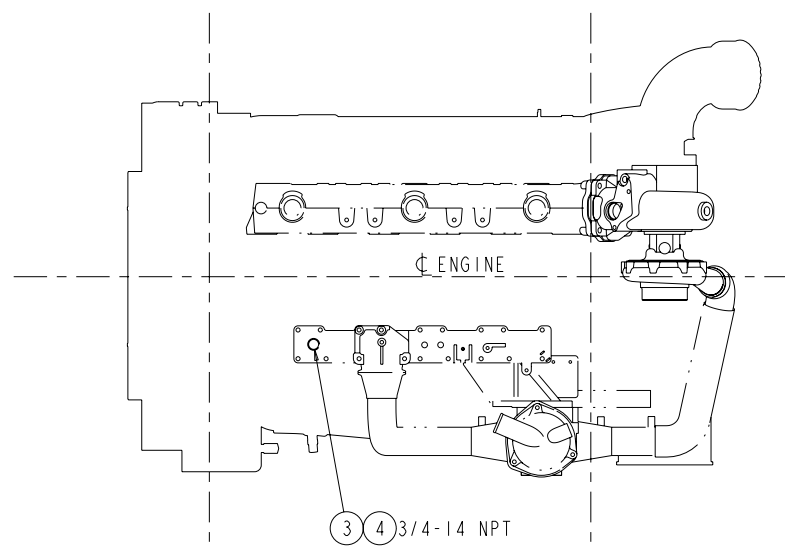
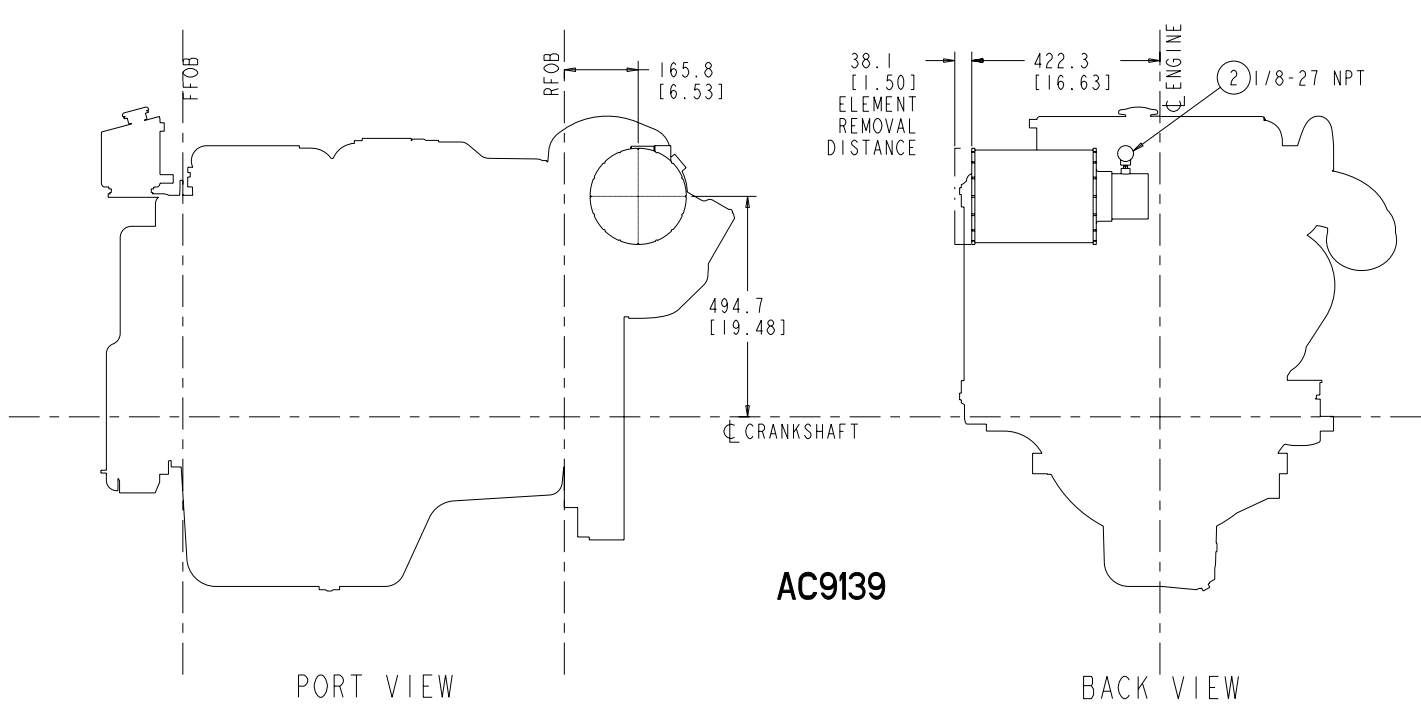
LAST SECTION LETTER USED: A	REF. DRAWING STANDARDS: ANSI Y14.5M ISO 81101	CUMMINS INC.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN: MILLIMETERS () ARE IN: INCHES	ITEM NAME OSL9-HX	IDENTIFIER INSTALLATION DIAGRAM	
DWN: TMO/TGANG	SCALE: 2:1	SIZE CODE IDENT. NO.:	ITEM NUMBER 3170591
CHD: UNCHECKED	ITEM CONTROL: MCS	SHEET 4 OF 21	
APPD:			

ACCESSORY DRIVES & PTO'S

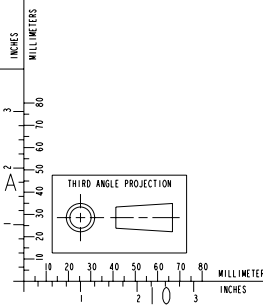
ITEM NUMBER
3170591

REVISIONS			
ZONE	REV	DESCRIPTION	APP'D
02	OSL9-HX		

UNCONTROLLED COPY



- ① AIR INLET CONNECTION, COMPRESSOR
- ② AIR INLET RESTRICTION GAUGE/PORT
- ③ INTAKE MANIFOLD PRESSURE PORT
- ④ INTAKE MANIFOLD TEMPERATURE PORT
- ⑤ TURBO BOOST PRESSURE PORT- N/A



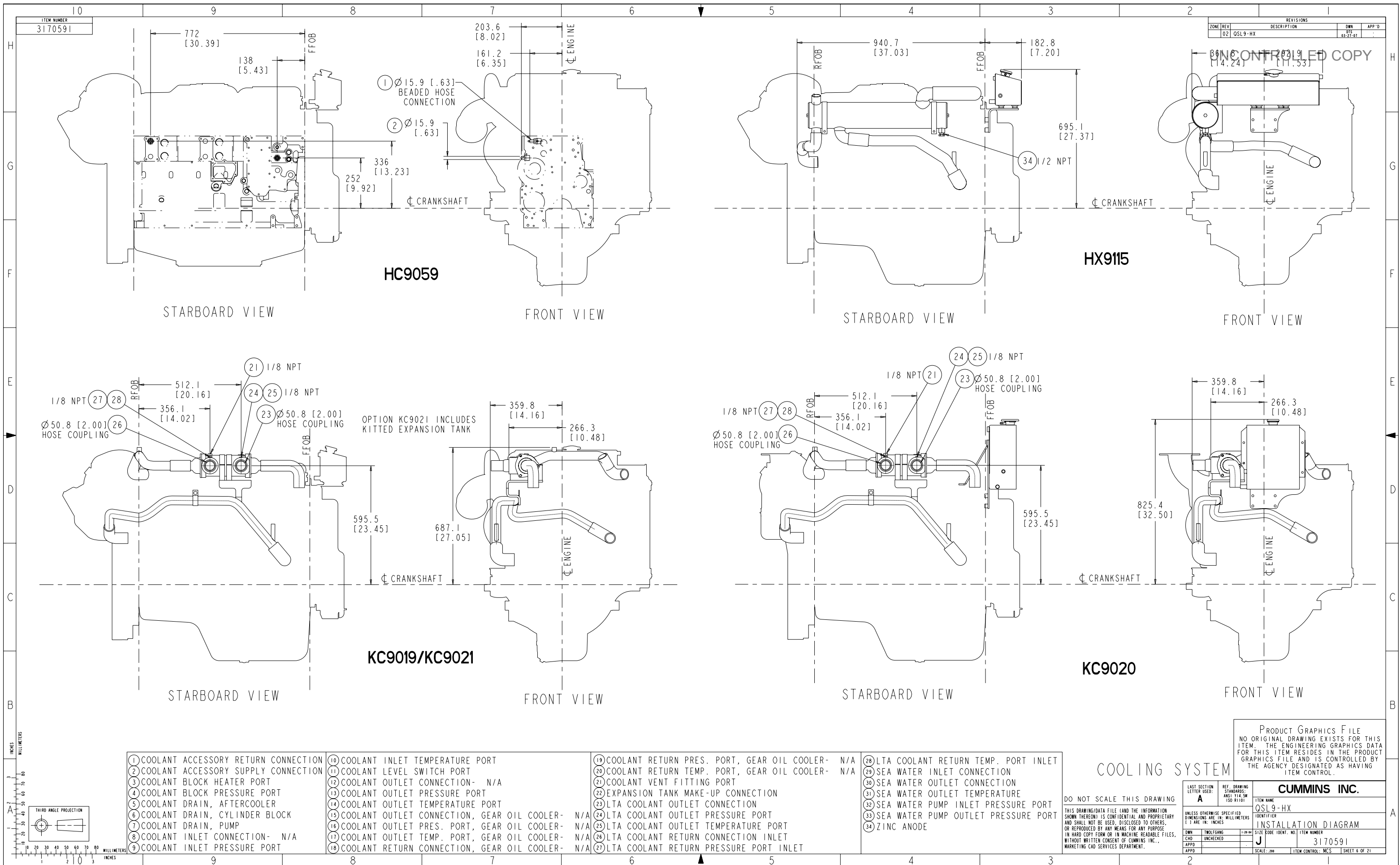
DO NOT SCALE THIS DRAWING

THIS DRAWING/DATA FILE (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE USED, DISCLOSED TO OTHERS, OR REPRODUCED BY ANY MEANS FOR ANY PURPOSE IN HARD COPY FORM OR IN MACHINE READABLE FILES, WITHOUT WRITTEN CONSENT OF CUMMINS INC., MARKETING CAD SERVICES DEPARTMENT.

PRODUCT GRAPHICS FILE
NO ORIGINAL DRAWING EXISTS FOR THIS ITEM. THE ENGINEERING GRAPHICS DATA FOR THIS ITEM RESIDES IN THE PRODUCT GRAPHICS FILE AND IS CONTROLLED BY THE AGENCY DESIGNATED AS HAVING ITEM CONTROL.

LAST SECTION LETTER USED: A	REF. DRAWING STANDARDS: ANSI Y14.5M ISO 81101	CUMMINS INC.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN: MILLIMETERS () ARE IN: INCHES	ITEM NAME OSL9-HX	IDENTIFIER	
DWN: TMO/TGANG CHD: UNCHECKED APPD:	SIZE CODE (IDENT. NO.) J	ITEM NUMBER 3170591	ITEM CONTROL: MCS
	SCALE: 2:1		SHEET 5 OF 21

AIR INDUCTION SYSTEM



ITEM NUMBER
3170591

REVISIONS		OWN	APP'D
ZONE	REV	DESCRIPTION	
02	OSL9-HX		

UNCONTROLLED COPY
[14.24] [11.53]

STARBOARD VIEW

FRONT VIEW

STARBOARD VIEW

FRONT VIEW

STARBOARD VIEW

FRONT VIEW

STARBOARD VIEW

FRONT VIEW

HC9059

HX9115

KC9019/KC9021

KC9020

OPTION KC9021 INCLUDES
KITTED EXPANSION TANK

1 COOLANT ACCESSORY RETURN CONNECTION	10 COOLANT INLET TEMPERATURE PORT	19 COOLANT RETURN PRES. PORT, GEAR OIL COOLER- N/A	28 LTA COOLANT RETURN TEMP. PORT INLET
2 COOLANT ACCESSORY SUPPLY CONNECTION	11 COOLANT LEVEL SWITCH PORT	20 COOLANT RETURN TEMP. PORT, GEAR OIL COOLER- N/A	29 SEA WATER INLET CONNECTION
3 COOLANT BLOCK HEATER PORT	12 COOLANT OUTLET CONNECTION- N/A	21 COOLANT VENT FITTING PORT	30 SEA WATER OUTLET CONNECTION
4 COOLANT BLOCK PRESSURE PORT	13 COOLANT OUTLET PRESSURE PORT	22 EXPANSION TANK MAKE-UP CONNECTION	31 SEA WATER OUTLET TEMPERATURE
5 COOLANT DRAIN, AFTERCOOLER	14 COOLANT OUTLET TEMPERATURE PORT	23 LTA COOLANT OUTLET CONNECTION	32 SEA WATER PUMP INLET PRESSURE PORT
6 COOLANT DRAIN, CYLINDER BLOCK	15 COOLANT OUTLET CONNECTION, GEAR OIL COOLER- N/A	24 LTA COOLANT OUTLET PRESSURE PORT	33 SEA WATER PUMP OUTLET PRESSURE PORT
7 COOLANT DRAIN, PUMP	16 COOLANT OUTLET PRES. PORT, GEAR OIL COOLER- N/A	25 LTA COOLANT OUTLET TEMPERATURE PORT	34 ZINC ANODE
8 COOLANT INLET CONNECTION- N/A	17 COOLANT OUTLET TEMP. PORT, GEAR OIL COOLER- N/A	26 LTA COOLANT RETURN CONNECTION INLET	
9 COOLANT INLET PRESSURE PORT	18 COOLANT RETURN CONNECTION, GEAR OIL COOLER- N/A	27 LTA COOLANT RETURN PRESSURE PORT INLET	

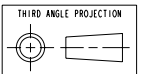
COOLING SYSTEM

Product Graphics File
NO ORIGINAL DRAWING EXISTS FOR THIS ITEM. THE ENGINEERING GRAPHICS DATA FOR THIS ITEM RESIDES IN THE PRODUCT GRAPHICS FILE AND IS CONTROLLED BY THE AGENCY DESIGNATED AS HAVING ITEM CONTROL.

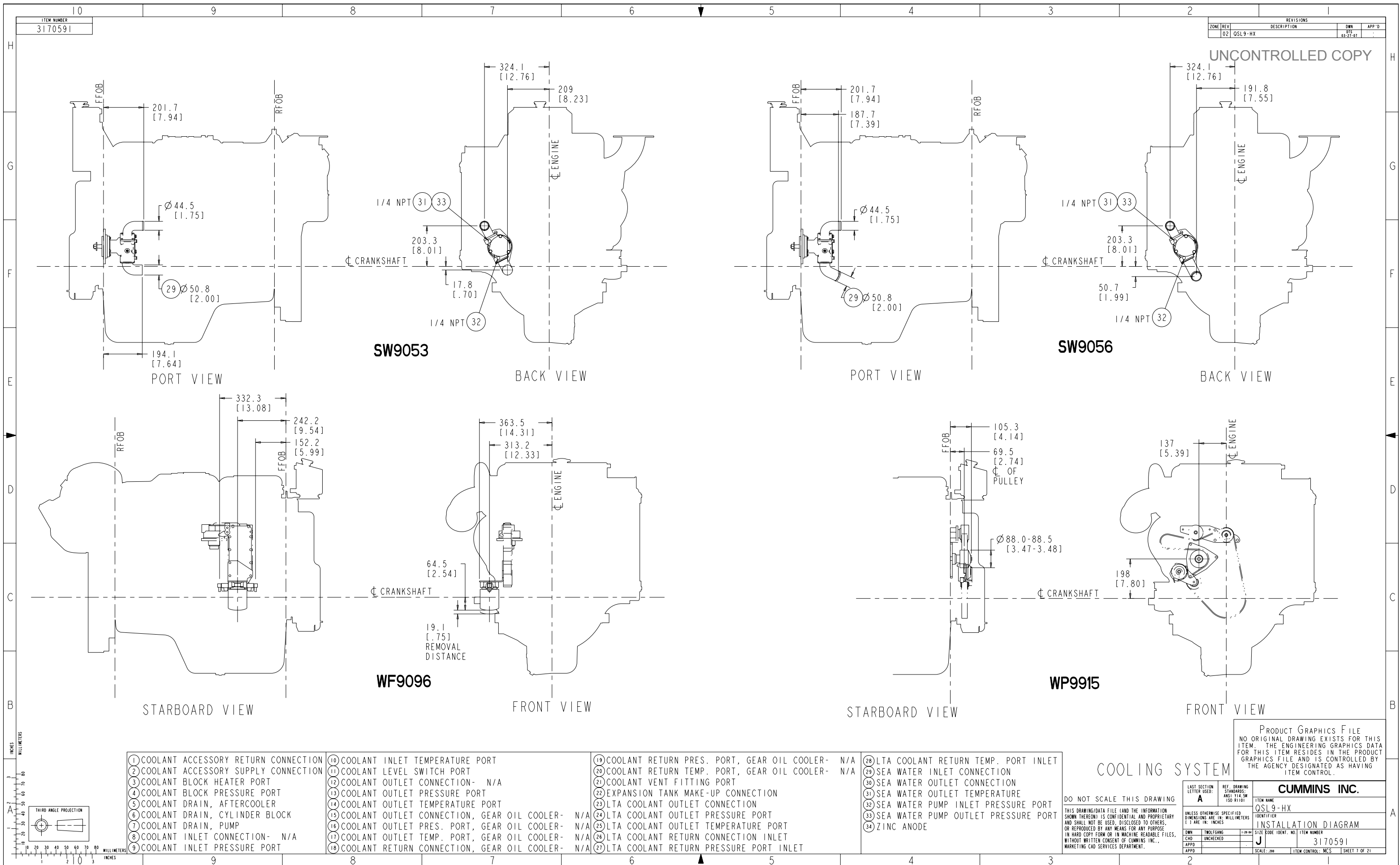
LAST SECTION LETTER USED: A	REF. DRAWING STANDARDS: ANSI Y14.5M ISO 81101	ITEM NAME OSL9-HX
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN: MILLIMETERS 1 ARE IN: INCHES	IDENTIFIER J	SIZE CODE (IDENT. NO.) ITEM NUMBER 3170591
DWN: UNCHECKED CHD: UNCHECKED APPD: UNCHECKED	SCALE: 2:1	ITEM CONTROL: MCS SHEET 6 OF 21

DO NOT SCALE THIS DRAWING
THIS DRAWING/DATA FILE (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE USED, DISCLOSED TO OTHERS, OR REPRODUCED BY ANY MEANS FOR ANY PURPOSE WITHOUT WRITTEN CONSENT OF CUMMINS INC., MARKETING CAD SERVICES DEPARTMENT.

INCHES
MILLIMETERS



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 30 40 50 60 70 80
INCHES
MILLIMETERS



ITEM NUMBER
3170591

REVISIONS		OWN	APP'D
ZONE	REV	DESCRIPTION	
02	OSL9-HX		

UNCONTROLLED COPY

SW9053

SW9056

WF9096

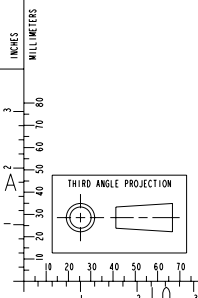
WP9915

- | | | | |
|---------------------------------------|--|--|--|
| 1 COOLANT ACCESSORY RETURN CONNECTION | 10 COOLANT INLET TEMPERATURE PORT | 19 COOLANT RETURN PRES. PORT, GEAR OIL COOLER- N/A | 28 LTA COOLANT RETURN TEMP. PORT INLET |
| 2 COOLANT ACCESSORY SUPPLY CONNECTION | 11 COOLANT LEVEL SWITCH PORT | 20 COOLANT RETURN TEMP. PORT, GEAR OIL COOLER- N/A | 29 SEA WATER INLET CONNECTION |
| 3 COOLANT BLOCK HEATER PORT | 12 COOLANT OUTLET CONNECTION- N/A | 21 COOLANT VENT FITTING PORT | 30 SEA WATER OUTLET CONNECTION |
| 4 COOLANT BLOCK PRESSURE PORT | 13 COOLANT OUTLET PRESSURE PORT | 22 EXPANSION TANK MAKE-UP CONNECTION | 31 SEA WATER OUTLET TEMPERATURE |
| 5 COOLANT DRAIN, AFTERCOOLER | 14 COOLANT OUTLET TEMPERATURE PORT | 23 LTA COOLANT OUTLET CONNECTION | 32 SEA WATER PUMP INLET PRESSURE PORT |
| 6 COOLANT DRAIN, CYLINDER BLOCK | 15 COOLANT OUTLET CONNECTION, GEAR OIL COOLER- N/A | 24 LTA COOLANT OUTLET PRESSURE PORT | 33 SEA WATER PUMP OUTLET PRESSURE PORT |
| 7 COOLANT DRAIN, PUMP | 16 COOLANT OUTLET PRES. PORT, GEAR OIL COOLER- N/A | 25 LTA COOLANT OUTLET TEMPERATURE PORT | 34 ZINC ANODE |
| 8 COOLANT INLET CONNECTION- N/A | 17 COOLANT OUTLET TEMP. PORT, GEAR OIL COOLER- N/A | 26 LTA COOLANT RETURN CONNECTION INLET | |
| 9 COOLANT INLET PRESSURE PORT | 18 COOLANT RETURN CONNECTION, GEAR OIL COOLER- N/A | 27 LTA COOLANT RETURN PRESSURE PORT INLET | |

PRODUCT GRAPHICS FILE
NO ORIGINAL DRAWING EXISTS FOR THIS ITEM. THE ENGINEERING GRAPHICS DATA FOR THIS ITEM RESIDES IN THE PRODUCT GRAPHICS FILE AND IS CONTROLLED BY THE AGENCY DESIGNATED AS HAVING ITEM CONTROL.

COOLING SYSTEM

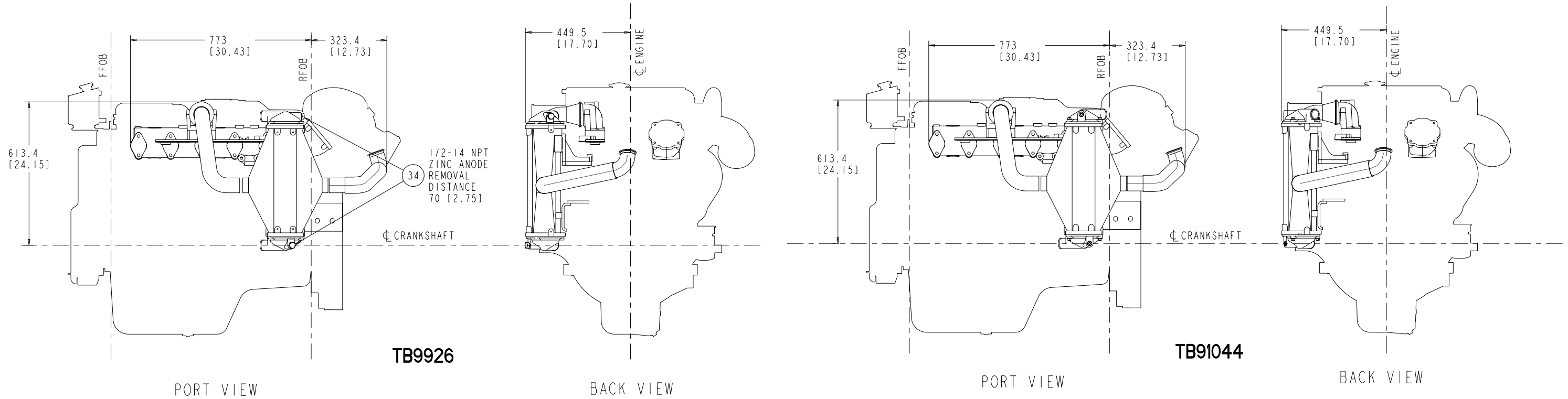
LAST SECTION LETTER USED: A	REF. DRAWING STANDARDS: ANSI Y14.5M ISO 81101	ITEM NAME CUMMINS INC.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN: MILLIMETERS () ARE IN: INCHES	IDENTIFIER OSL9-HX	SIZE CODE (IDENT. NO.) J
DWN: UNCHECKED CHD: UNCHECKED APPD: UNCHECKED	ITEM NUMBER 3170591	ITEM CONTROL: MCS
DO NOT SCALE THIS DRAWING		SHEET 7 OF 21



ITEM NUMBER
3170591

REVISIONS			
ZONE	REV	DESCRIPTION	APP'D
02	OSL9-HX		

UNCONTROLLED COPY



TB9926

TB91044

1 COOLANT ACCESSORY RETURN CONNECTION	10 COOLANT INLET TEMPERATURE PORT	19 COOLANT RETURN PRES. PORT, GEAR OIL COOLER- N/A	28 LTA COOLANT RETURN TEMP. PORT INLET
2 COOLANT ACCESSORY SUPPLY CONNECTION	11 COOLANT LEVEL SWITCH PORT	20 COOLANT RETURN TEMP. PORT, GEAR OIL COOLER- N/A	29 SEA WATER INLET CONNECTION
3 COOLANT BLOCK HEATER PORT	12 COOLANT OUTLET CONNECTION- N/A	21 COOLANT VENT FITTING PORT	30 SEA WATER OUTLET CONNECTION
4 COOLANT BLOCK PRESSURE PORT	13 COOLANT OUTLET PRESSURE PORT	22 EXPANSION TANK MAKE-UP CONNECTION	31 SEA WATER OUTLET TEMPERATURE
5 COOLANT DRAIN, AFTERCOOLER	14 COOLANT OUTLET TEMPERATURE PORT	23 LTA COOLANT OUTLET CONNECTION	32 SEA WATER PUMP INLET PRESSURE PORT
6 COOLANT DRAIN, CYLINDER BLOCK	15 COOLANT OUTLET CONNECTION, GEAR OIL COOLER- N/A	24 LTA COOLANT OUTLET PRESSURE PORT	33 SEA WATER PUMP OUTLET PRESSURE PORT
7 COOLANT DRAIN, PUMP	16 COOLANT OUTLET PRES. PORT, GEAR OIL COOLER- N/A	25 LTA COOLANT OUTLET TEMPERATURE PORT	34 ZINC ANODE
8 COOLANT INLET CONNECTION- N/A	17 COOLANT OUTLET TEMP. PORT, GEAR OIL COOLER- N/A	26 LTA COOLANT RETURN CONNECTION INLET	
9 COOLANT INLET PRESSURE PORT	18 COOLANT RETURN CONNECTION, GEAR OIL COOLER- N/A	27 LTA COOLANT RETURN PRESSURE PORT INLET	

COOLING SYSTEM

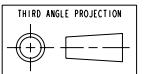
Product Graphics File
NO ORIGINAL DRAWING EXISTS FOR THIS ITEM. THE ENGINEERING GRAPHICS DATA FOR THIS ITEM RESIDES IN THE PRODUCT GRAPHICS FILE AND IS CONTROLLED BY THE AGENCY DESIGNATED AS HAVING ITEM CONTROL.

DO NOT SCALE THIS DRAWING

THIS DRAWING/DATA FILE (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE USED, DISCLOSED TO OTHERS, OR REPRODUCED BY ANY MEANS FOR ANY PURPOSE IN HARD COPY FORM OR IN MACHINE READABLE FILES, WITHOUT WRITTEN CONSENT OF CUMMINS INC., MARKETING CAD SERVICES DEPARTMENT.

LAST SECTION LETTER USED: A	REF. DRAWING STANDARDS: ANSI Y14.5M ISO 81101	ITEM NAME CUMMINS INC.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN: MILLIMETERS () ARE IN: INCHES	IDENTIFIER OSL9-HX	INSTALLATION DIAGRAM
DWN: UNCHECKED	SIZE CODE IDENT. NO.:	ITEM NUMBER 3170591
APPD: UNCHECKED	SCALE: 200	ITEM CONTROL: MCS
		SHEET 8 OF 21

INCHES
MILLIMETERS

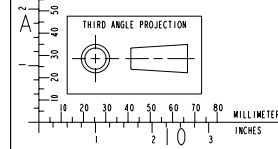
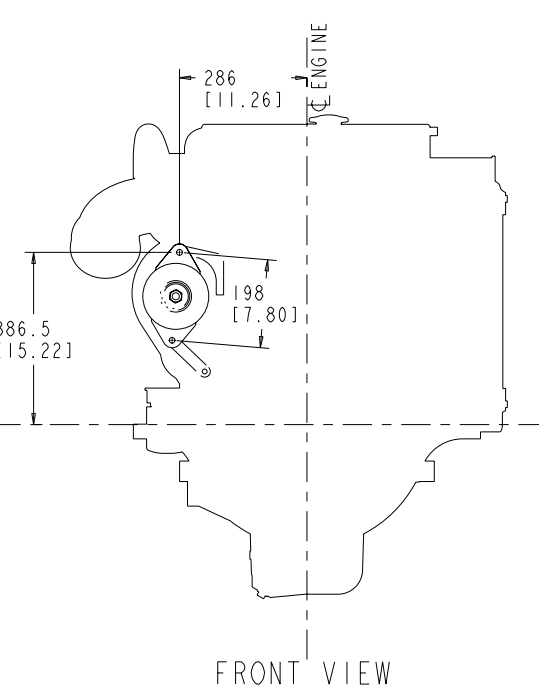
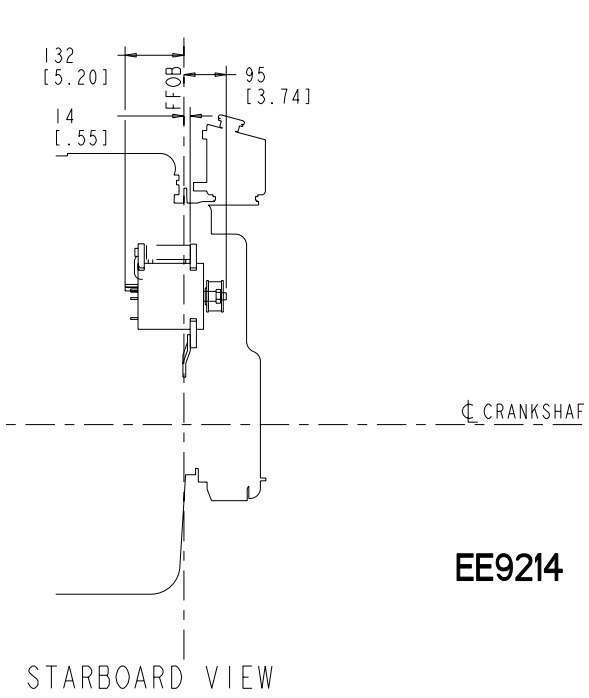
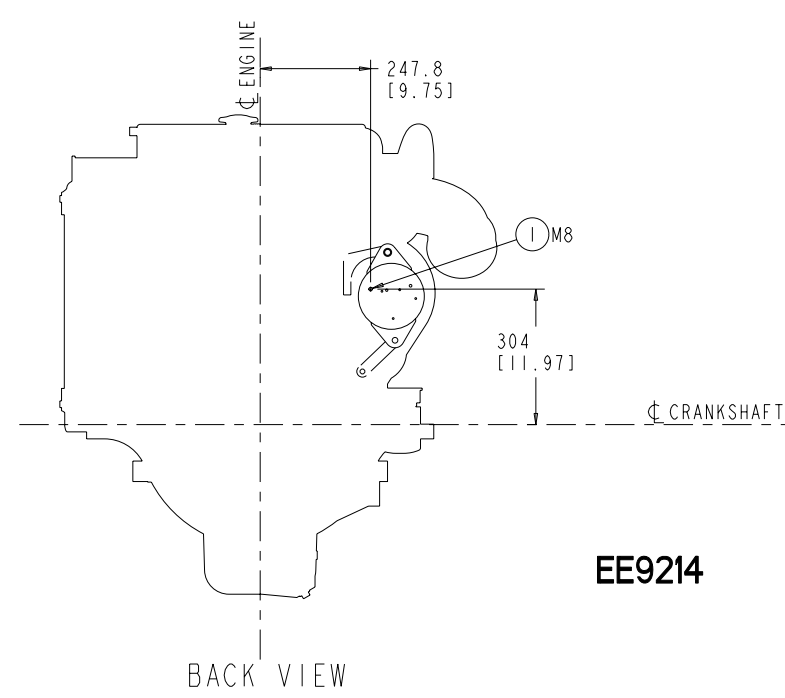
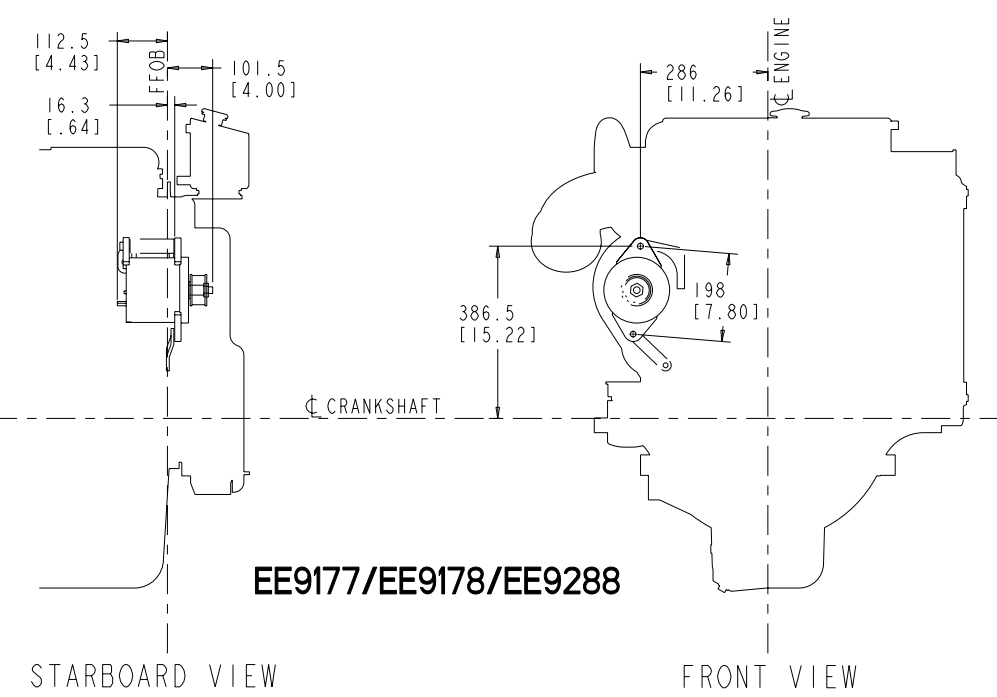
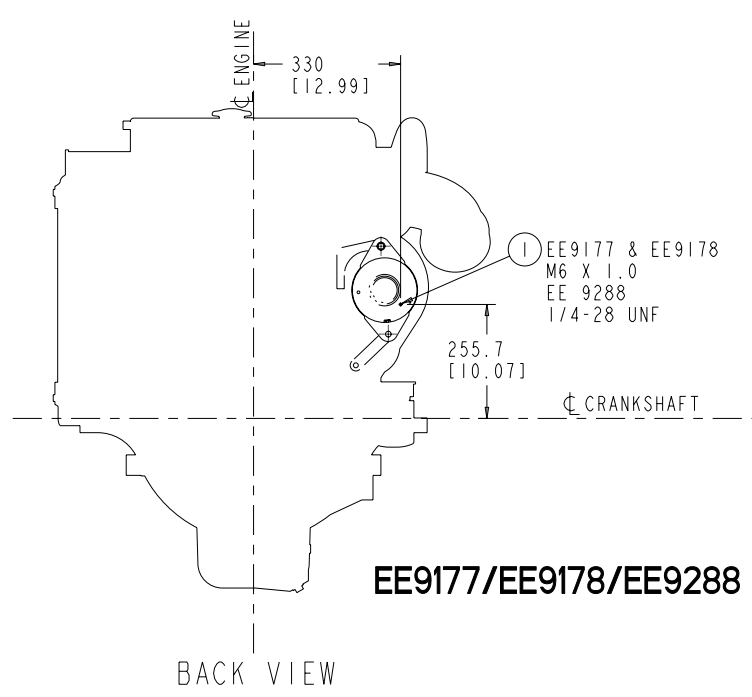
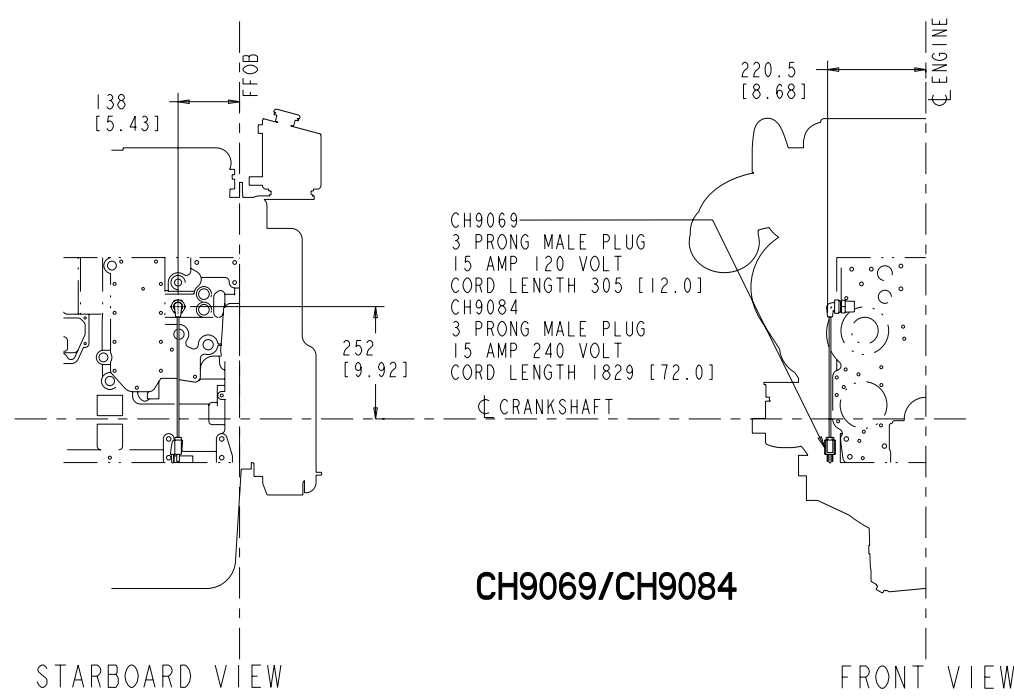


INCHES
MILLIMETERS

ITEM NUMBER
3170591

REVISIONS			
ZONE	REV	DESCRIPTION	APP'D
02	OSL9-HX		

UNCONTROLLED COPY



- ① ALTERNATOR POSITIVE B+ TERMINAL
- ② WIRE HARNESS INTERCONNECT

DO NOT SCALE THIS DRAWING
THIS DRAWING/DATA FILE (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE USED, DISCLOSED TO OTHERS, OR REPRODUCED BY ANY MEANS FOR ANY PURPOSE IN HARD COPY FORM OR IN MACHINE READABLE FILES, WITHOUT WRITTEN CONSENT OF CUMMINS INC., MARKETING CAD SERVICES DEPARTMENT.

PRODUCT GRAPHICS FILE
NO ORIGINAL DRAWING EXISTS FOR THIS ITEM. THE ENGINEERING GRAPHICS DATA FOR THIS ITEM RESIDES IN THE PRODUCT GRAPHICS FILE AND IS CONTROLLED BY THE AGENCY DESIGNATED AS HAVING ITEM CONTROL.

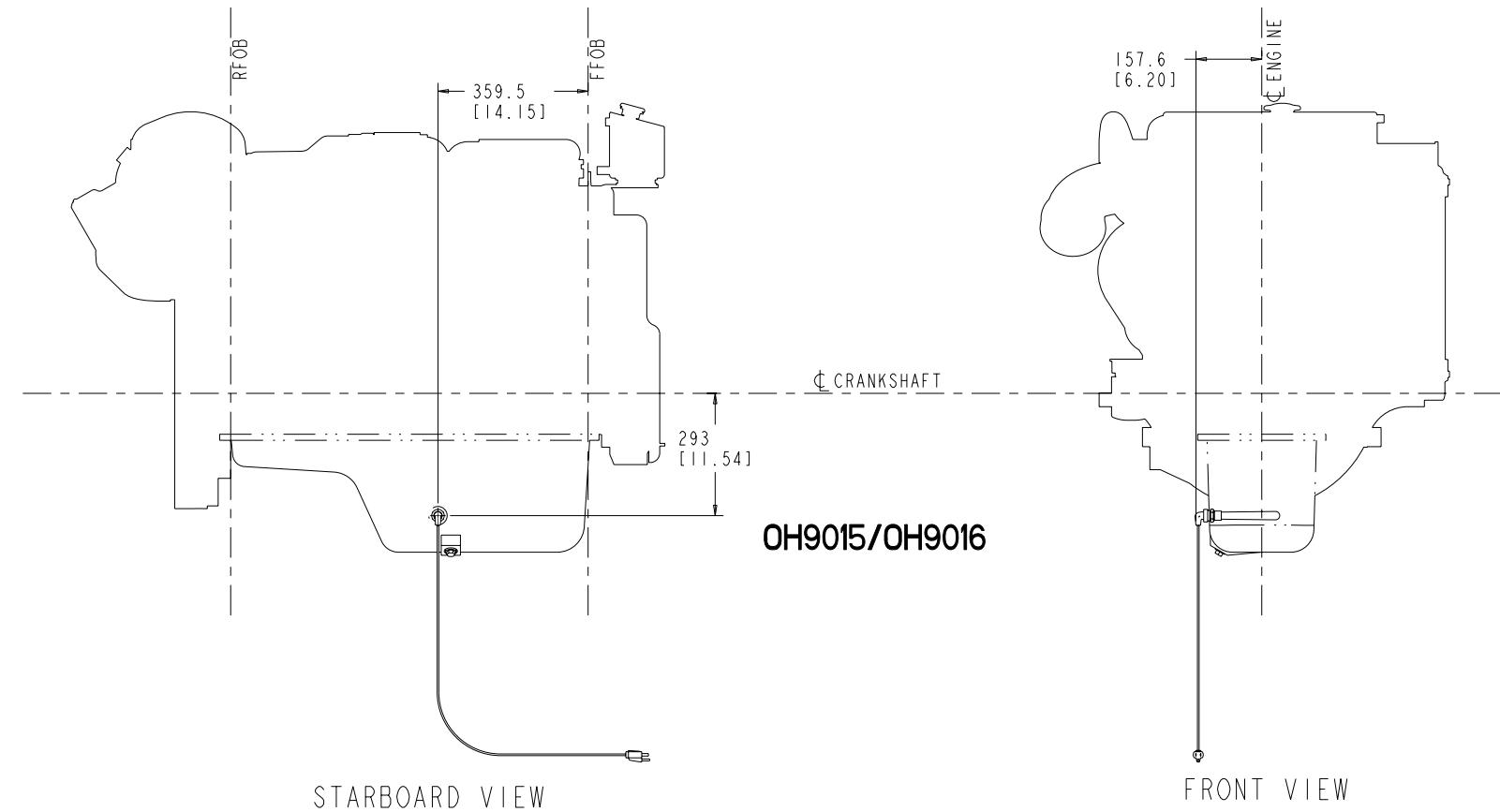
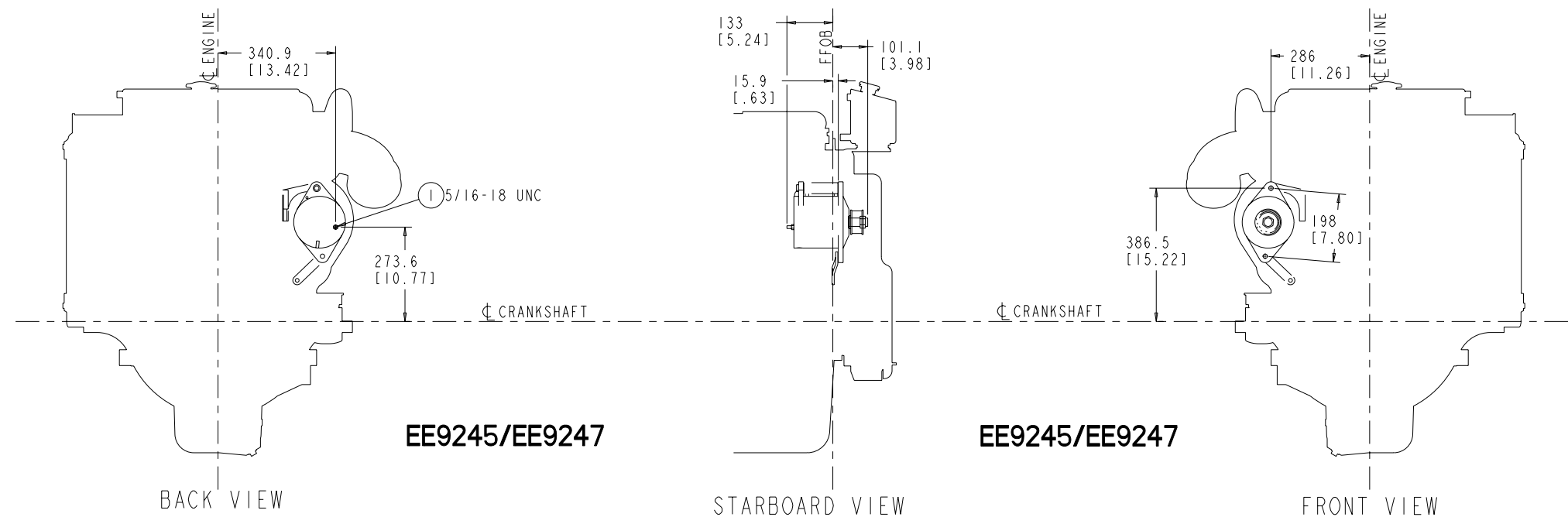
LAST SECTION LETTER USED: A	REF. DRAWING STANDARDS: ANSI Y14.5M ISO 81101	CUMMINS INC.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN: MILLIMETERS () ARE IN: INCHES	ITEM NAME QSL9-HX	IDENTIFIER INSTALLATION DIAGRAM	
DWN: UNCHECKED CHD: UNCHECKED APPD:	SIZE CODE (IDENT. NO.) J	ITEM NUMBER 3170591	SCALE: 2:1 ITEM CONTROL: MCS SHEET 9 OF 21

ELECTRICAL SYSTEM

ITEM NUMBER
3170591

REVISIONS			
ZONE	REV	DESCRIPTION	APP'D
02	OSL9-HX		

UNCONTROLLED COPY



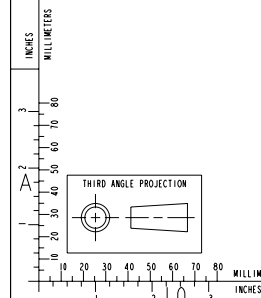
- ① ALTERNATOR POSITIVE B+ TERMINAL
- ② WIRE HARNESS INTERCONNECT

DO NOT SCALE THIS DRAWING

THIS DRAWING/DATA FILE (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE USED, DISCLOSED TO OTHERS, OR REPRODUCED BY ANY MEANS FOR ANY PURPOSE IN HARD COPY FORM OR IN MACHINE READABLE FILES, WITHOUT WRITTEN CONSENT OF CUMMINS INC., MARKETING CAD SERVICES DEPARTMENT.

PRODUCT GRAPHICS FILE
NO ORIGINAL DRAWING EXISTS FOR THIS ITEM. THE ENGINEERING GRAPHICS DATA FOR THIS ITEM RESIDES IN THE PRODUCT GRAPHICS FILE AND IS CONTROLLED BY THE AGENCY DESIGNATED AS HAVING ITEM CONTROL.

LAST SECTION LETTER USED: A	REF. DRAWING STANDARDS: ANSI Y14.5M ISO 81101	CUMMINS INC.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN: MILLIMETERS () ARE IN: INCHES	ITEM NAME QSL9-HX	IDENTIFIER INSTALLATION DIAGRAM	ITEM NUMBER 3170591
DWN: TMO/TGANG	SCALE: 2:1	SIZE CODE (IDENT. NO.) J	ITEM CONTROL: MCS
CHD: UNCHECKED			SHEET 10 OF 21
APPD:			



ELECTRICAL SYSTEM

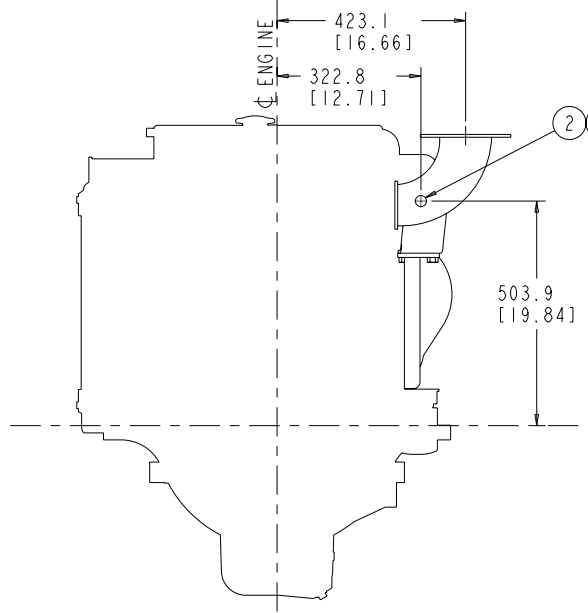
ITEM NUMBER
3170591

REVISIONS			
ZONE	REV	DESCRIPTION	APP'D
02	OSL9-HX		

UNCONTROLLED COPY

1 8X Ø11.5 [4.45] ON A
Ø182.63 [7.19] B.C.

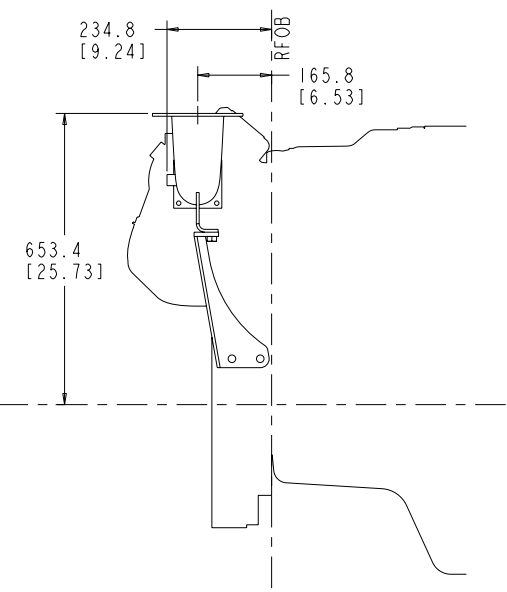
VIEW IN DIRECTION
OF ARROW "A"



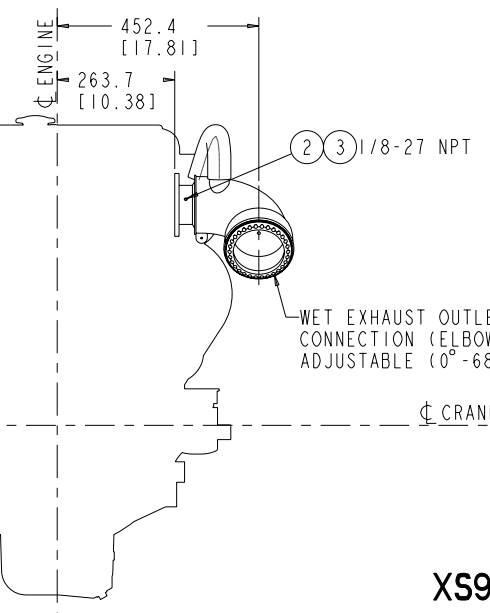
XS9314

BACK VIEW

2 3 1/8-27 NPT



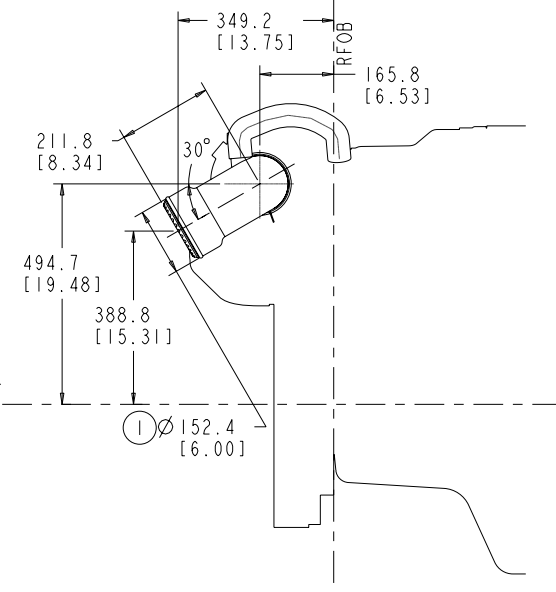
STARBOARD VIEW



XS9317

BACK VIEW

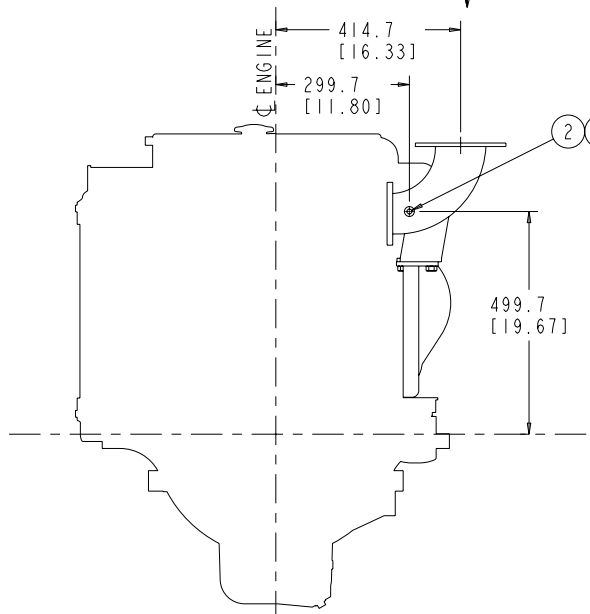
2 3 1/8-27 NPT



STARBOARD VIEW

1 8X Ø11.5 [4.45] ON A
Ø182.63 [7.19] B.C.

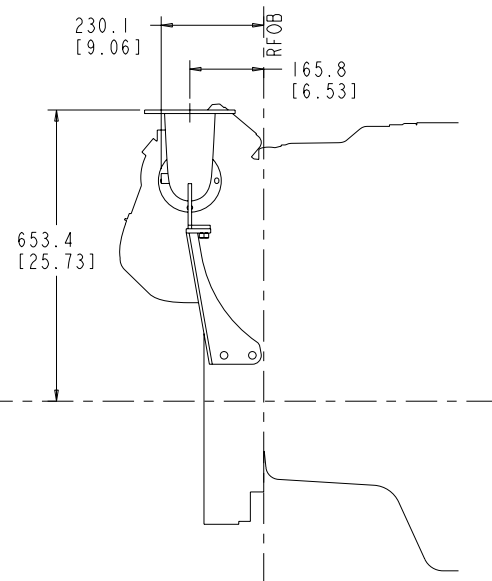
VIEW IN DIRECTION
OF ARROW "B"



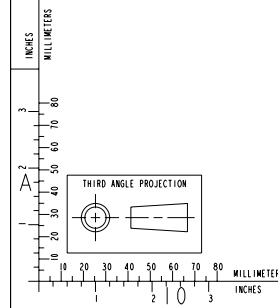
XS9376

BACK VIEW

2 3 1/8-27 NPT



STARBOARD VIEW



- 1 EXHAUST OUTLET CONNECTION
- 2 EXHAUST PRESSURE PORT
- 3 EXHAUST TEMPERATURE PORT

DO NOT SCALE THIS DRAWING

THIS DRAWING/DATA FILE (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE USED, DISCLOSED TO OTHERS, OR REPRODUCED BY ANY MEANS FOR ANY PURPOSE IN HARD COPY FORM OR IN MACHINE READABLE FILES, WITHOUT WRITTEN CONSENT OF CUMMINS INC., MARKETING CAD SERVICES DEPARTMENT.

PRODUCT GRAPHICS FILE
NO ORIGINAL DRAWING EXISTS FOR THIS ITEM. THE ENGINEERING GRAPHICS DATA FOR THIS ITEM RESIDES IN THE PRODUCT GRAPHICS FILE AND IS CONTROLLED BY THE AGENCY DESIGNATED AS HAVING ITEM CONTROL.

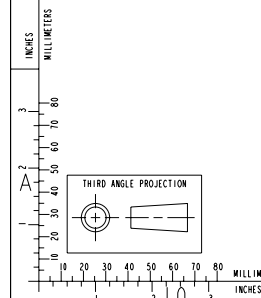
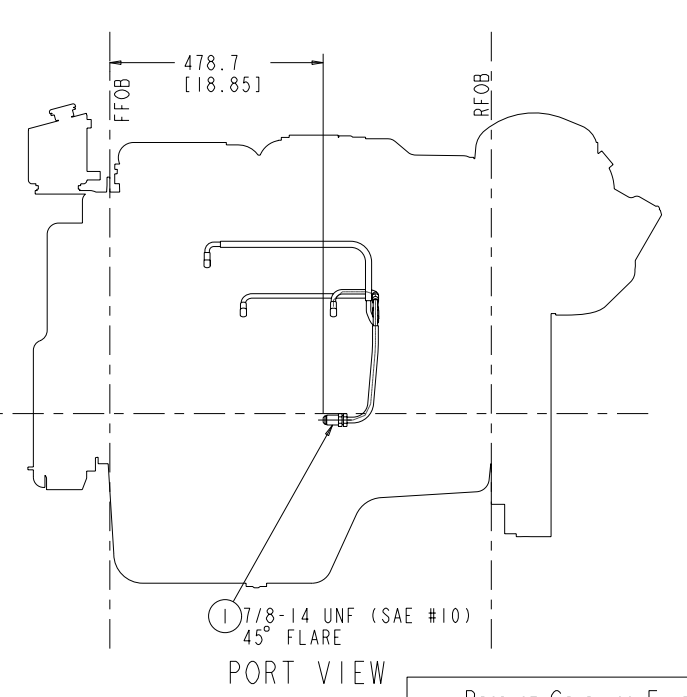
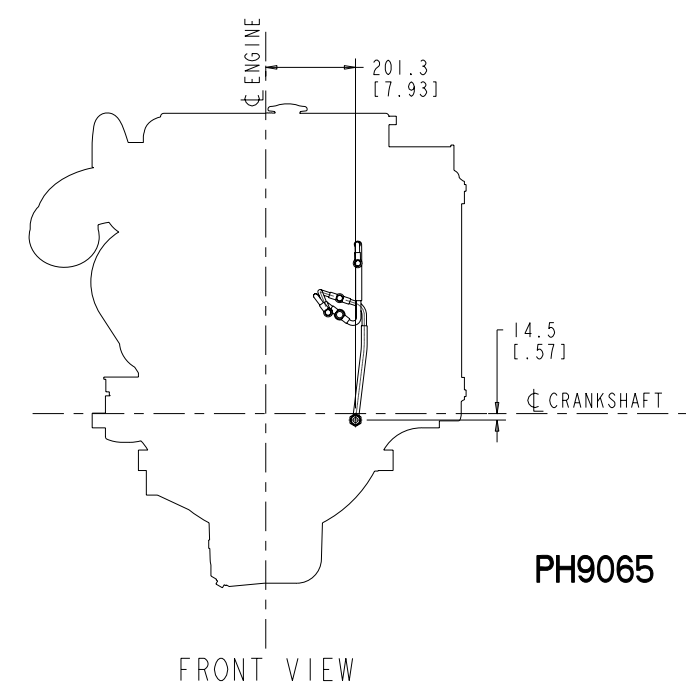
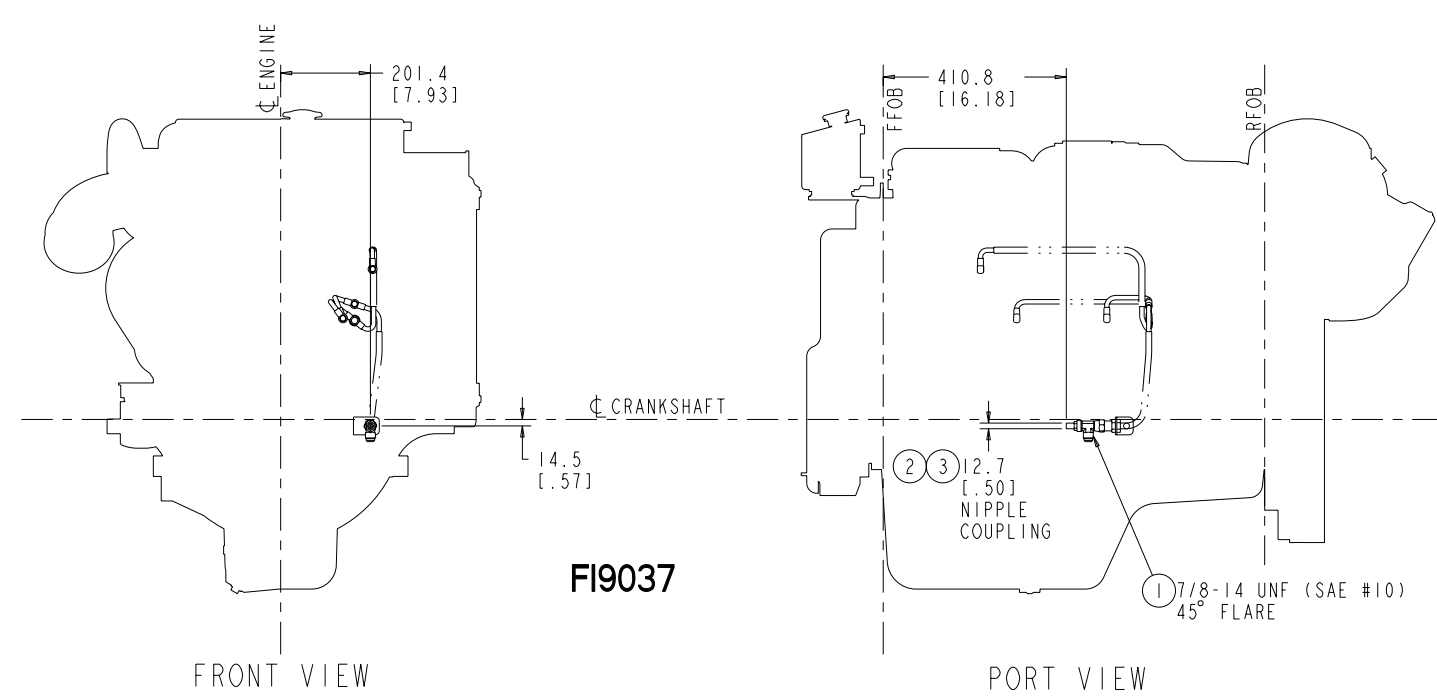
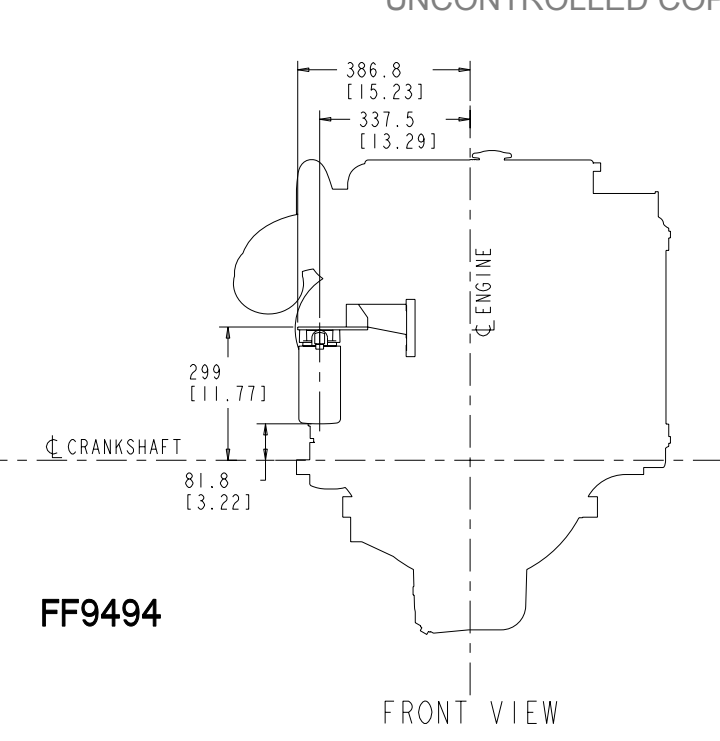
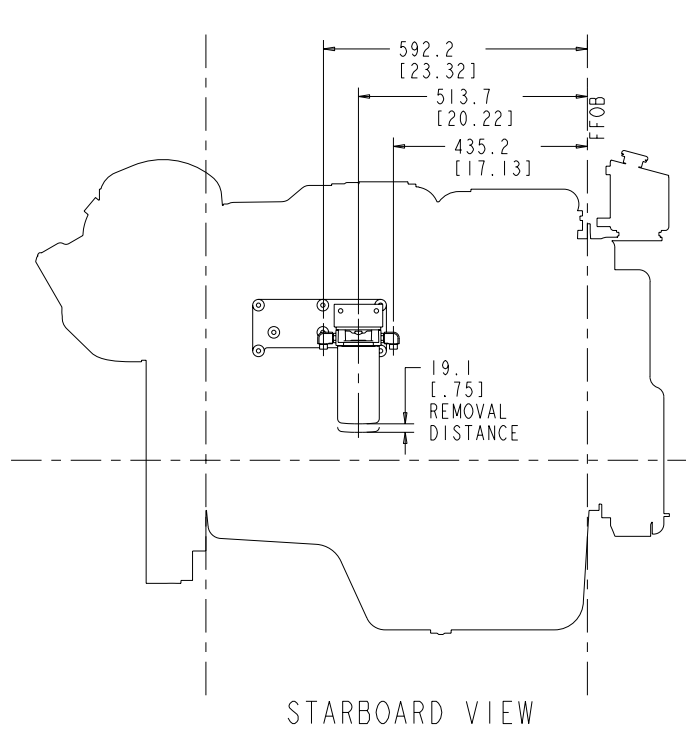
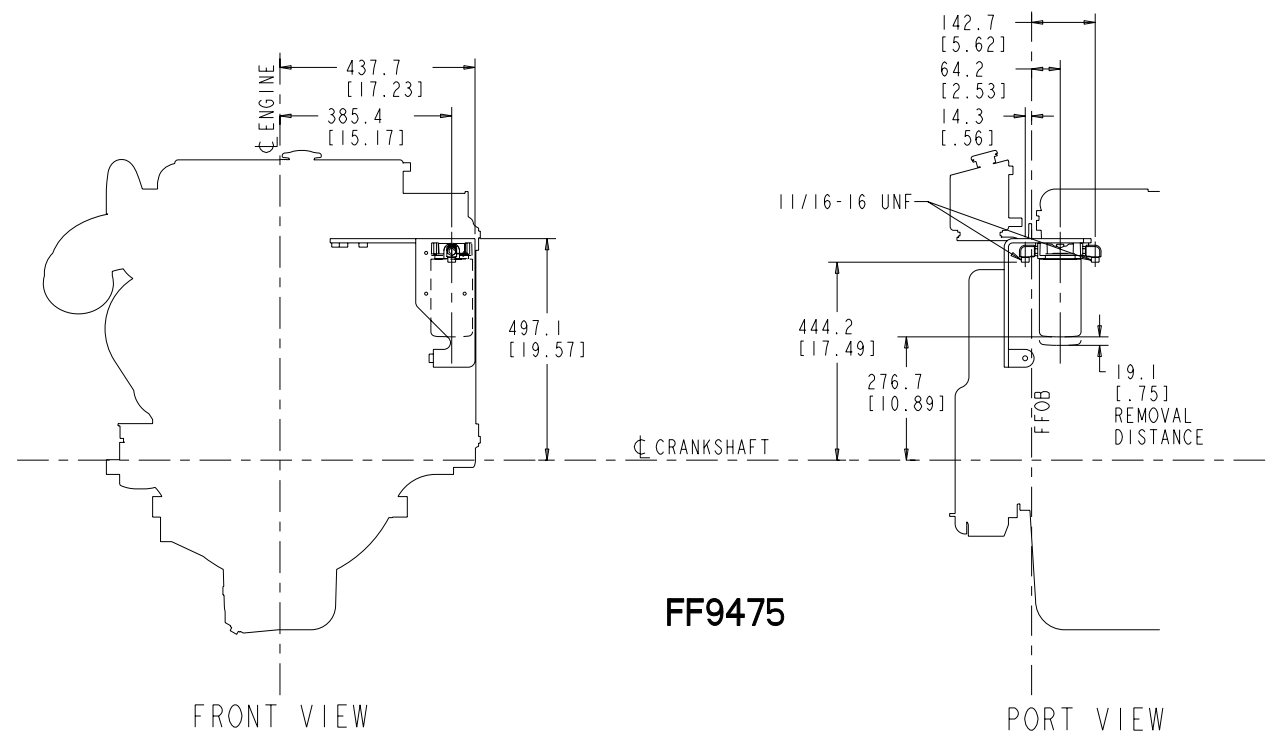
LAST SECTION LETTER USED: A	REF. DRAWING STANDARDS: ANSI Y14.5M ISO 81101	CUMMINS INC.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN: MILLIMETERS () ARE IN: INCHES	ITEM NAME QSL9-HX	IDENTIFIER	SIZE CODE (IDENT. NO.)
DWN: TMO/TGANG	APPD: UNCHECKED	ITEM NUMBER J	3170591
SCALE: 2:1	ITEM CONTROL: MCS	SHEET 11 OF 21	

EXHAUST SYSTEM

ITEM NUMBER
3170591

REVISIONS		OWN	APP'D
ZONE REV	DESCRIPTION	9/5	
02	OSL9-HX		

UNCONTROLLED COPY



- | | |
|--------------------------------------|---------------------------------|
| ① FUEL INLET CONNECTION | ⑤ FUEL RETURN CONNECTION |
| ② FUEL INLET PRESSURE PORT | ⑥ FUEL RETURN PRESSURE PORT |
| ③ FUEL INLET TEMPERATURE PORT | ⑦ FUEL RETURN TEMPERATURE - N/A |
| ④ FUEL PUMP OUT (RAIL) PRESSURE PORT | |

FUEL SYSTEM

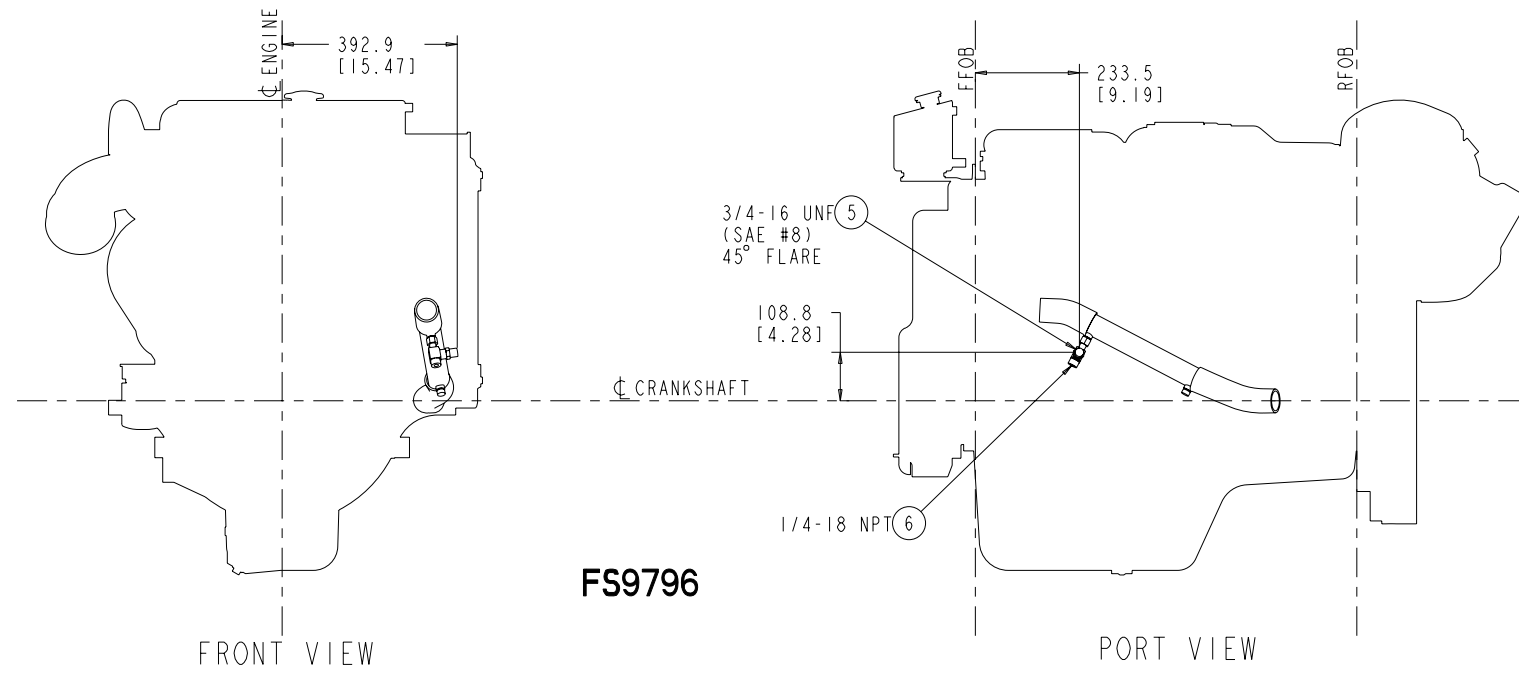
DO NOT SCALE THIS DRAWING
THIS DRAWING/DATA FILE (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE USED, DISCLOSED TO OTHERS, OR REPRODUCED BY ANY MEANS FOR ANY PURPOSE IN HARD COPY FORM OR IN MACHINE READABLE FILES, WITHOUT WRITTEN CONSENT OF CUMMINS INC., MARKETING CAD SERVICES DEPARTMENT.

LAST SECTION LETTER USED: A	REF. DRAWING STANDARDS: ANSI Y14.5M ISO 81101	CUMMINS INC.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN: MILLIMETERS () ARE IN: INCHES	ITEM NAME OSL9-HX	IDENTIFIER J	ITEM NUMBER 3170591
DWN: UNCHECKED	SCALE: 2:1	ITEM CONTROL: MCS	SHEET 12 OF 21

ITEM NUMBER
3170591

REVISIONS			
ZONE	REV	DESCRIPTION	APP'D
02	OSL9-HX		

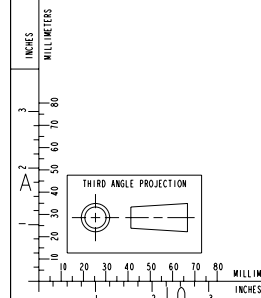
UNCONTROLLED COPY



FS9796

FRONT VIEW

PORT VIEW



- | | |
|--------------------------------------|--------------------------------|
| ① FUEL INLET CONNECTION | ⑤ FUEL RETURN CONNECTION |
| ② FUEL INLET PRESSURE PORT | ⑥ FUEL RETURN PRESSURE PORT |
| ③ FUEL INLET TEMPERATURE PORT | ⑦ FUEL RETURN TEMPERATURE- N/A |
| ④ FUEL PUMP OUT (RAIL) PRESSURE PORT | |

DO NOT SCALE THIS DRAWING

THIS DRAWING/DATA FILE (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE USED, DISCLOSED TO OTHERS, OR REPRODUCED BY ANY MEANS FOR ANY PURPOSE IN HARD COPY FORM OR IN MACHINE READABLE FILES, WITHOUT WRITTEN CONSENT OF CUMMINS INC., MARKETING CAD SERVICES DEPARTMENT.

PRODUCT GRAPHICS FILE
NO ORIGINAL DRAWING EXISTS FOR THIS ITEM. THE ENGINEERING GRAPHICS DATA FOR THIS ITEM RESIDES IN THE PRODUCT GRAPHICS FILE AND IS CONTROLLED BY THE AGENCY DESIGNATED AS HAVING ITEM CONTROL.

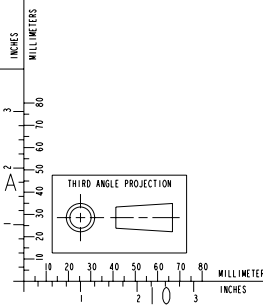
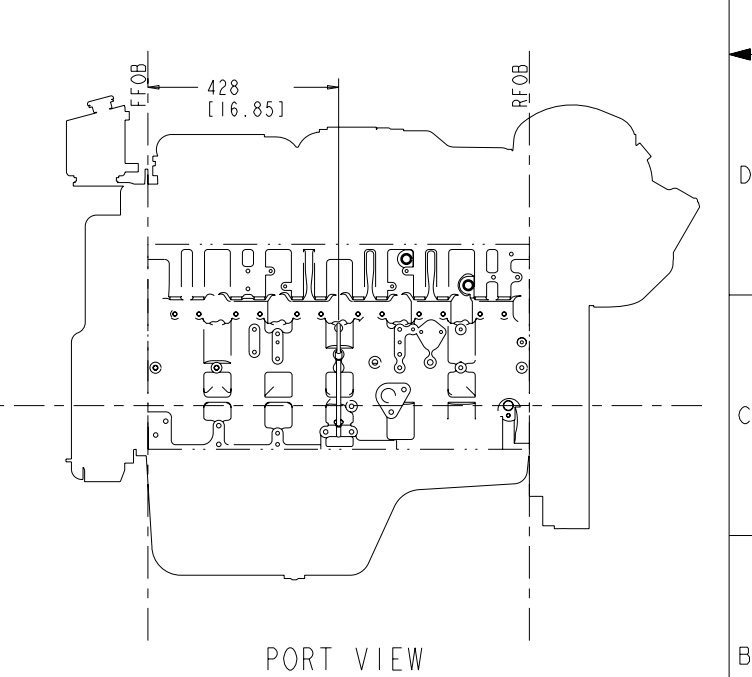
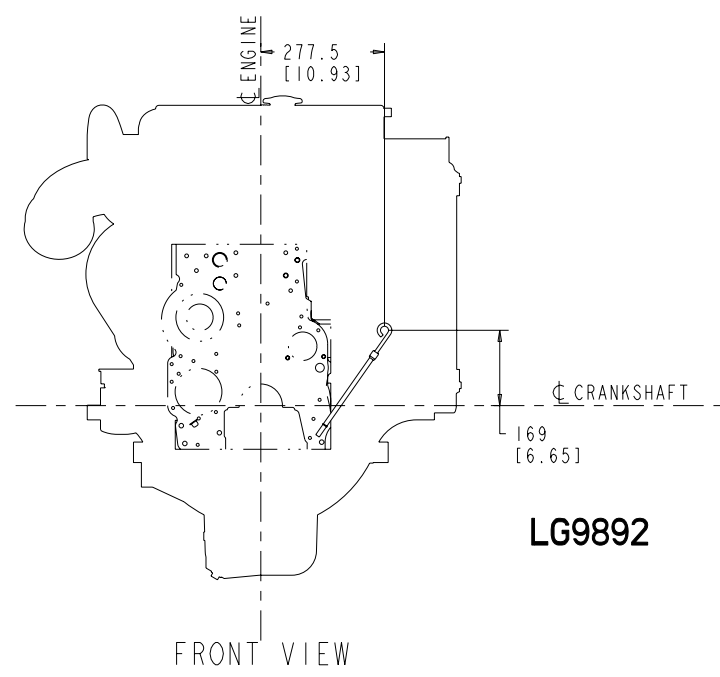
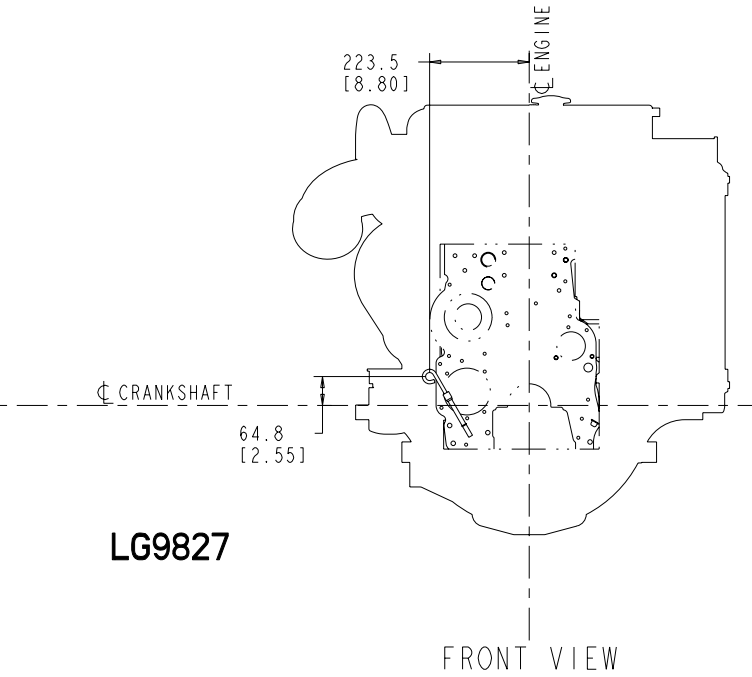
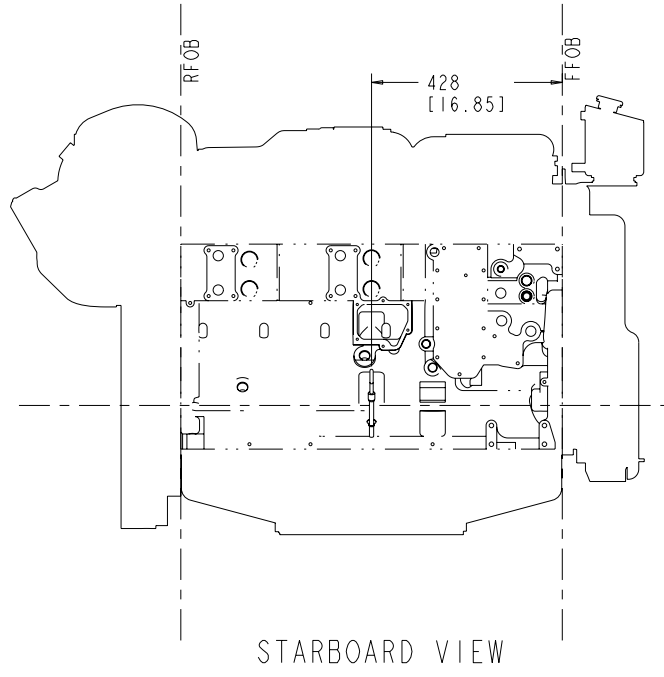
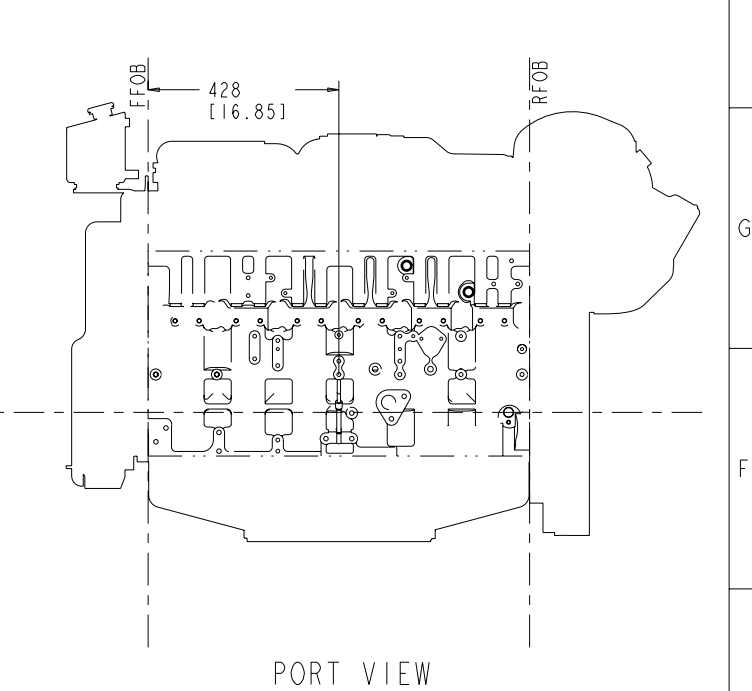
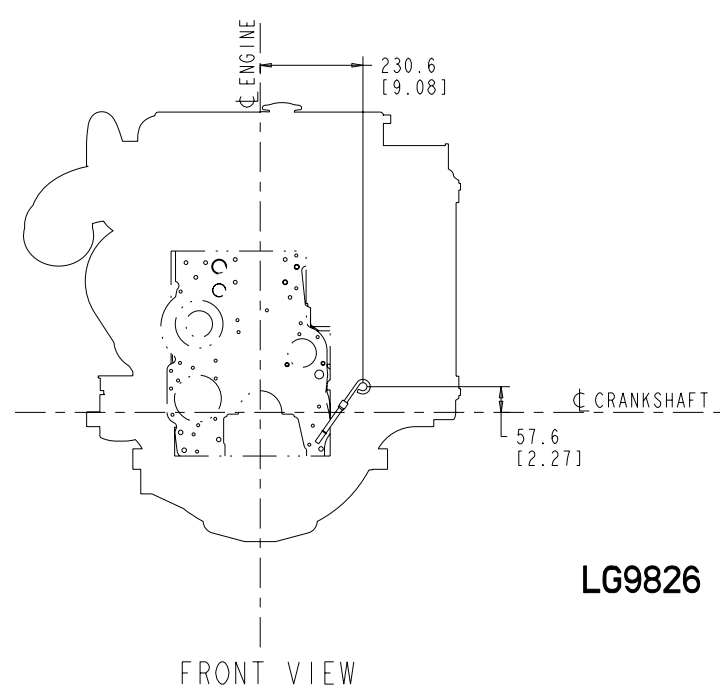
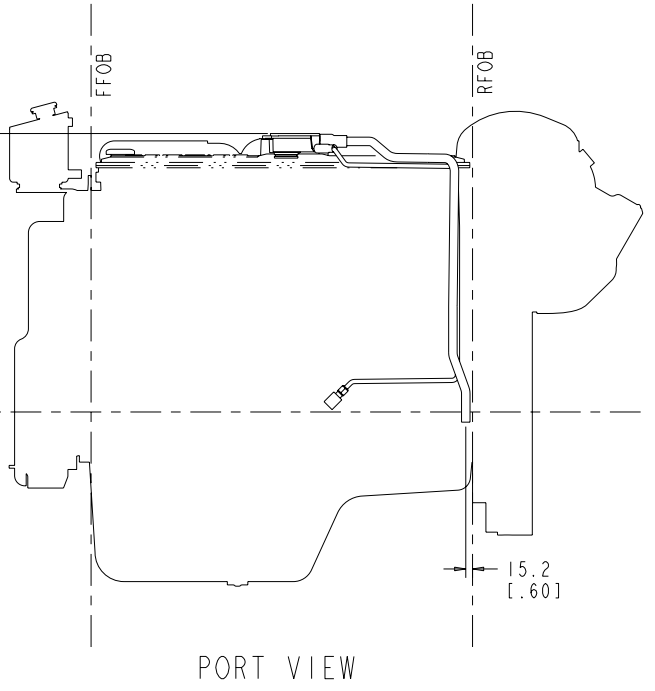
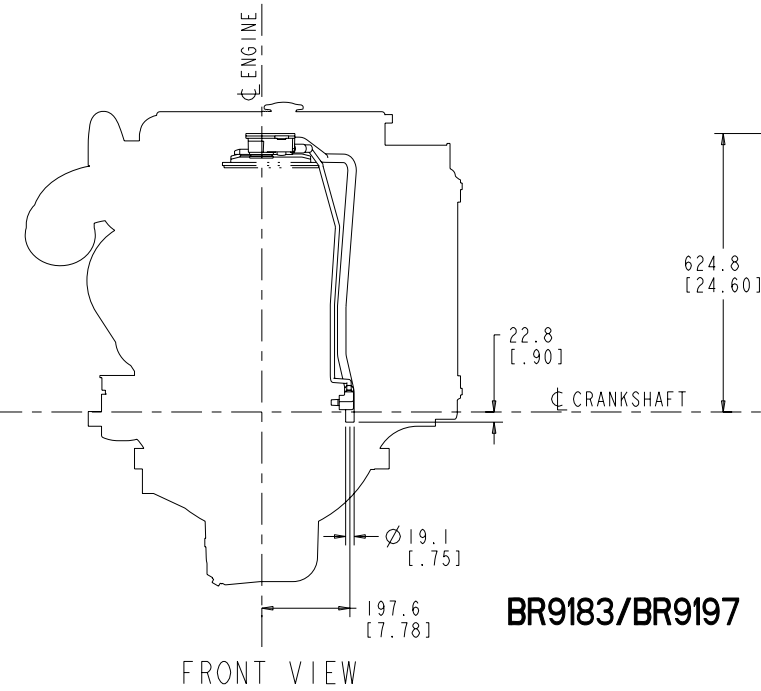
LAST SECTION LETTER USED: A	REF. DRAWING STANDARDS: ANSI Y14.5M ISO 81101	CUMMINS INC.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN: MILLIMETERS () ARE IN: INCHES	ITEM NAME OSL9-HX	IDENTIFIER INSTALLATION DIAGRAM	
DWN: UNCHECKED	APPD: UNCHECKED	SIZE CODE IDENT. NO.:	ITEM NUMBER 3170591
SCALE: 2:1	ITEM CONTROL: MCS	SHEET 13 OF 21	

FUEL SYSTEM

ITEM NUMBER
3170591

REVISIONS			
ZONE	REV	DESCRIPTION	APP'D
02	OSL9-HX		

UNCONTROLLED COPY



- ① CENTINEL VALVE OIL SUPPLY CONNECTION- N/A
- ② CRANKCASE PRESSURE PORT
- ③ GEAR OIL INLET TO COOLER CONNECTION
- ④ GEAR OIL INLET TO COOLER PRESSURE PORT- N/A
- ⑤ GEAR OIL INLET TO COOLER TEMPERATURE PORT- N/A

- ⑥ GEAR OIL OUTLET FROM COOLER CONNECTION
- ⑦ GEAR OIL OUTLET FROM COOLER PRESSURE PORT- N/A
- ⑧ GEAR OIL OUTLET FROM COOLER TEMPERATURE PORT- N/A
- ⑨ OIL DRAIN BOSS
- ⑩ OIL GALLERY TEMPERATURE PORT

- ⑪ OIL PRESSURE GAUGE PORT, AFTER FILTER
- ⑫ OIL SUMP TEMPERATURE PORT
- ⑬ REMOTE OIL FILTER RETURN CONNECTION
- ⑭ REMOTE OIL FILTER SUPPLY CONNECTION

LUBE OIL SYSTEM

DO NOT SCALE THIS DRAWING
THIS DRAWING/DATA FILE (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE USED, DISCLOSED TO OTHERS, OR REPRODUCED BY ANY MEANS FOR ANY PURPOSE IN HARD COPY FORM OR IN MACHINE READABLE FILES, WITHOUT WRITTEN CONSENT OF CUMMINS INC., MARKETING CAD SERVICES DEPARTMENT.

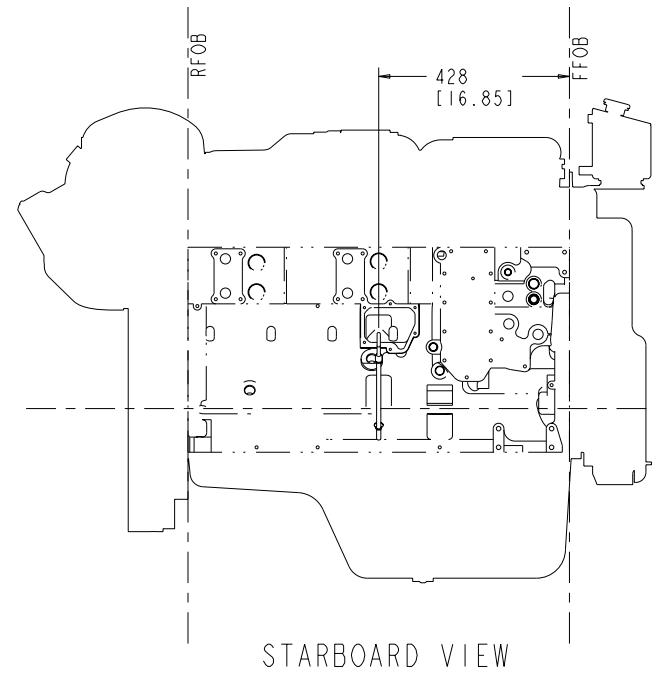
LAST SECTION LETTER USED: A	REF. DRAWING STANDARDS: ANSI Y14.5M ISO 81101	CUMMINS INC.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN: MILLIMETERS () ARE IN: INCHES	ITEM NAME OSL9-HX	IDENTIFIER	ITEM NUMBER
DWN: TW/STG/ANG CHD: UNCHECKED APPD:	SIZE CODE IDENT. NO.	3170591	
	SCALE: 2:1	ITEM CONTROL: MCS	SHEET 14 OF 21

PRODUCT GRAPHICS FILE
NO ORIGINAL DRAWING EXISTS FOR THIS ITEM. THE ENGINEERING GRAPHICS DATA FOR THIS ITEM RESIDES IN THE PRODUCT GRAPHICS FILE AND IS CONTROLLED BY THE AGENCY DESIGNATED AS HAVING ITEM CONTROL.

ITEM NUMBER
3170591

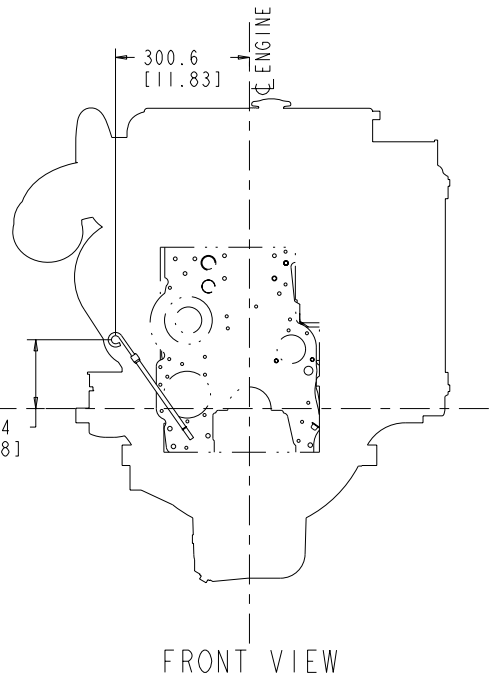
REVISIONS			
ZONE	REV	DESCRIPTION	APP'D
02	OSL9-HX		

UNCONTROLLED COPY

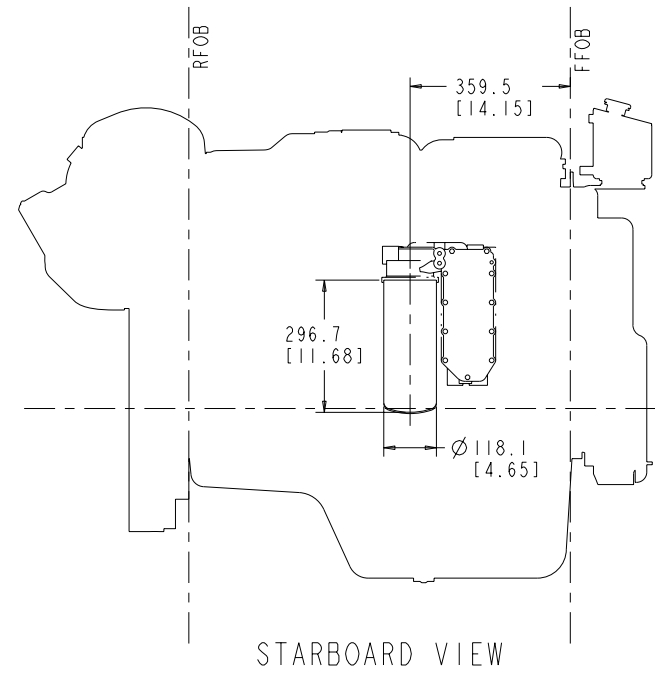


LG9893

STARBOARD VIEW

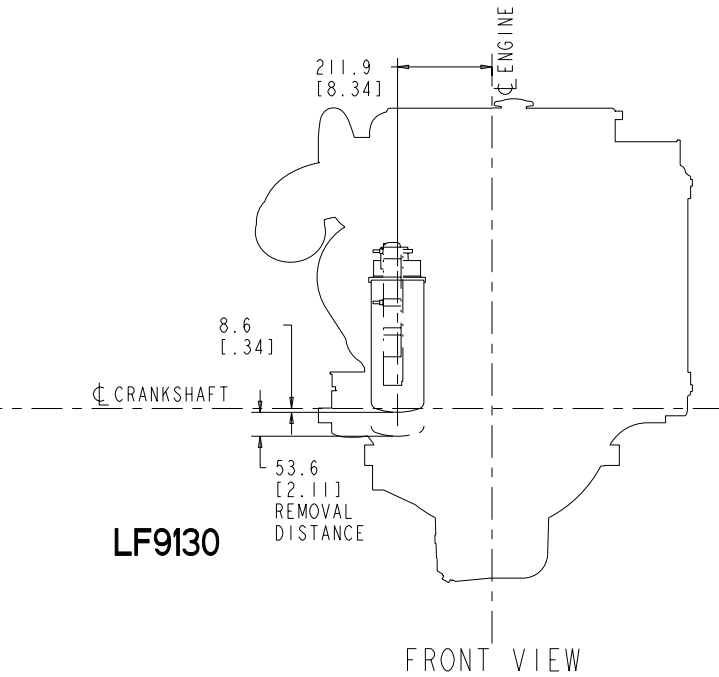


FRONT VIEW

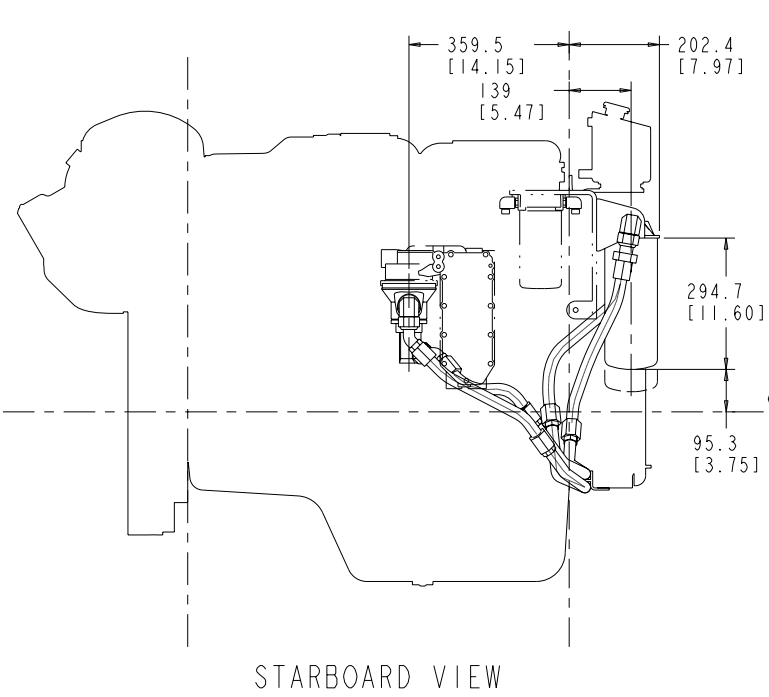


LF9130

STARBOARD VIEW

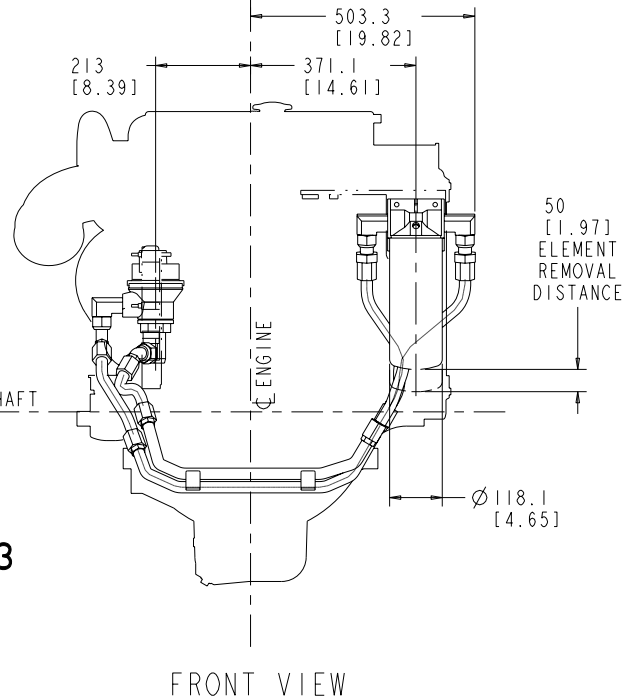


FRONT VIEW

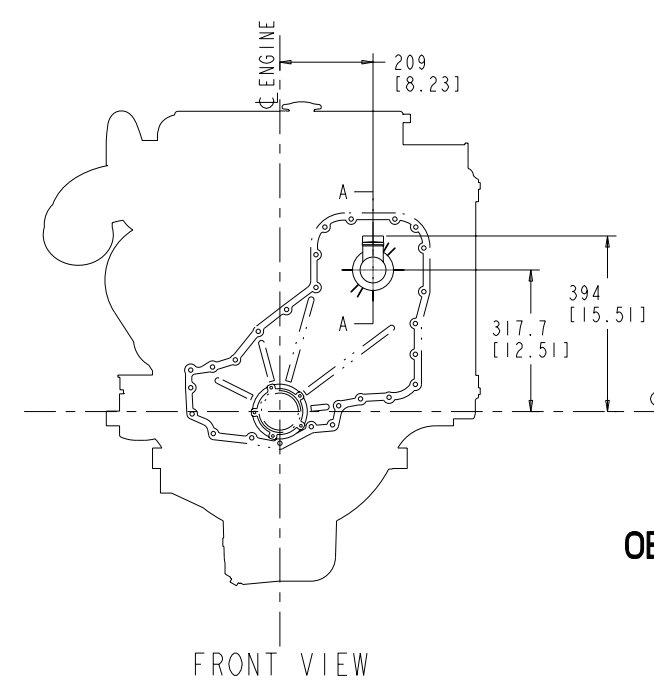


LF9123

STARBOARD VIEW

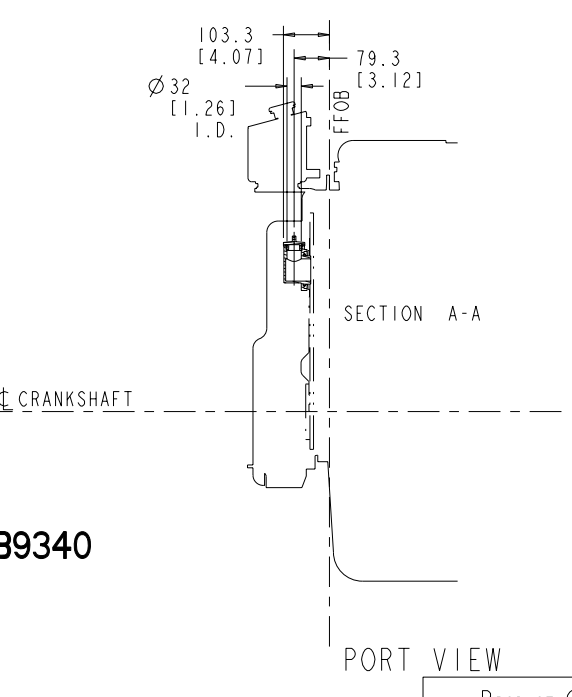


FRONT VIEW



OB9340

FRONT VIEW



PORT VIEW

SECTION A-A

- ① CENTINEL VALVE OIL SUPPLY CONNECTION- N/A
- ② CRANKCASE PRESSURE PORT
- ③ GEAR OIL INLET TO COOLER CONNECTION
- ④ GEAR OIL INLET TO COOLER PRESSURE PORT- N/A
- ⑤ GEAR OIL INLET TO COOLER TEMPERATURE PORT- N/A

- ⑥ GEAR OIL OUTLET FROM COOLER CONNECTION
- ⑦ GEAR OIL OUTLET FROM COOLER PRESSURE PORT- N/A
- ⑧ GEAR OIL OUTLET FROM COOLER TEMPERATURE PORT- N/A
- ⑨ OIL DRAIN BOSS
- ⑩ OIL GALLERY TEMPERATURE PORT

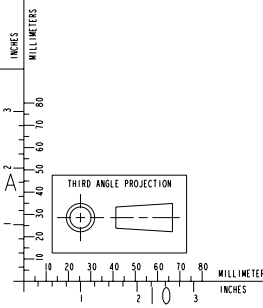
- ⑪ OIL PRESSURE GAUGE PORT, AFTER FILTER
- ⑫ OIL SUMP TEMPERATURE PORT
- ⑬ REMOTE OIL FILTER RETURN CONNECTION
- ⑭ REMOTE OIL FILTER SUPPLY CONNECTION

DO NOT SCALE THIS DRAWING
THIS DRAWING/DATA FILE (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE USED, DISCLOSED TO OTHERS, OR REPRODUCED BY ANY MEANS FOR ANY PURPOSE IN HARD COPY FORM OR IN MACHINE READABLE FILES, WITHOUT WRITTEN CONSENT OF CUMMINS INC., MARKETING CAD SERVICES DEPARTMENT.

LUBE OIL SYSTEM

PRODUCT GRAPHICS FILE
NO ORIGINAL DRAWING EXISTS FOR THIS ITEM. THE ENGINEERING GRAPHICS DATA FOR THIS ITEM RESIDES IN THE PRODUCT GRAPHICS FILE AND IS CONTROLLED BY THE AGENCY DESIGNATED AS HAVING ITEM CONTROL.

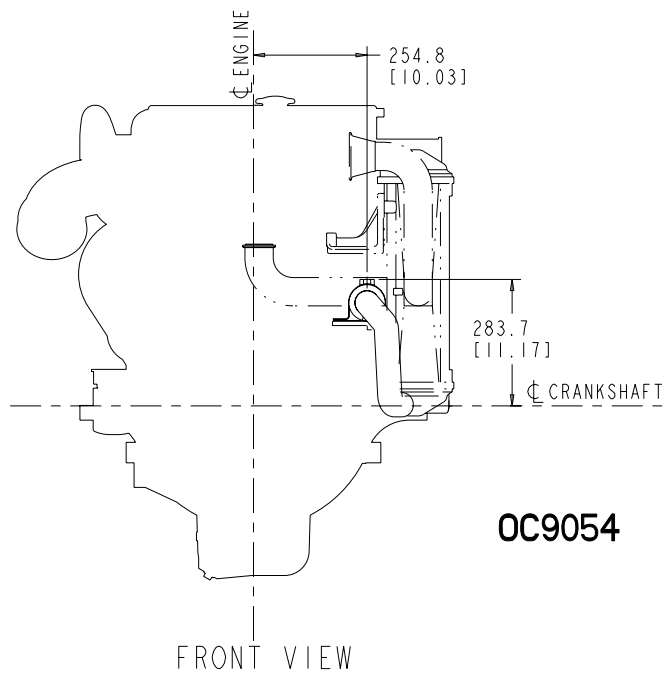
LAST SECTION LETTER USED: A	REF. DRAWING STANDARDS: ANSI Y14.5M ISO 81101	CUMMINS INC.	
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN: MILLIMETERS () ARE IN: INCHES	ITEM NAME OSL9-HX	IDENTIFIER INSTALLATION DIAGRAM	
DWN: TMO/ANG CHD: UNCHECKED APPD: APPD	SIZE CODE (IDENT. NO.) J	ITEM NUMBER 3170591	ITEM CONTROL: MCS SHEET 15 OF 21



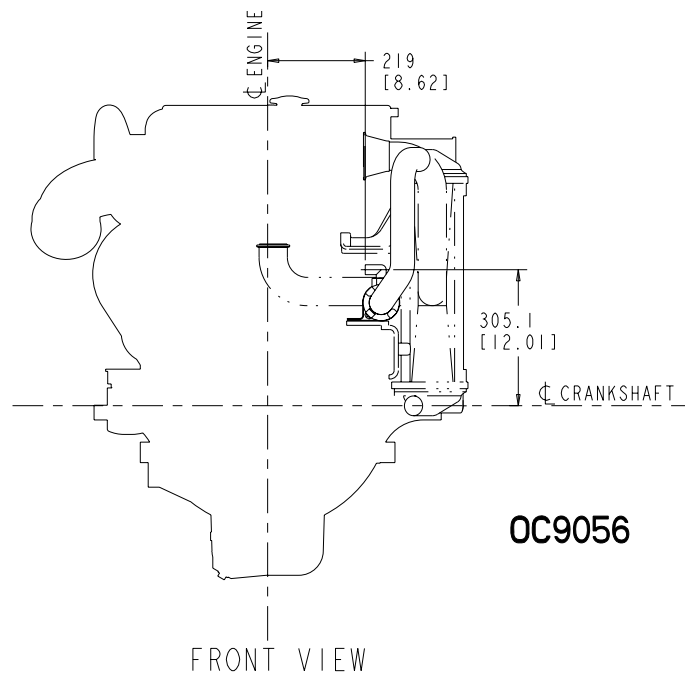
ITEM NUMBER
3170591

REVISIONS			
ZONE	REV	DESCRIPTION	APP'D
02	OSL9-HX		

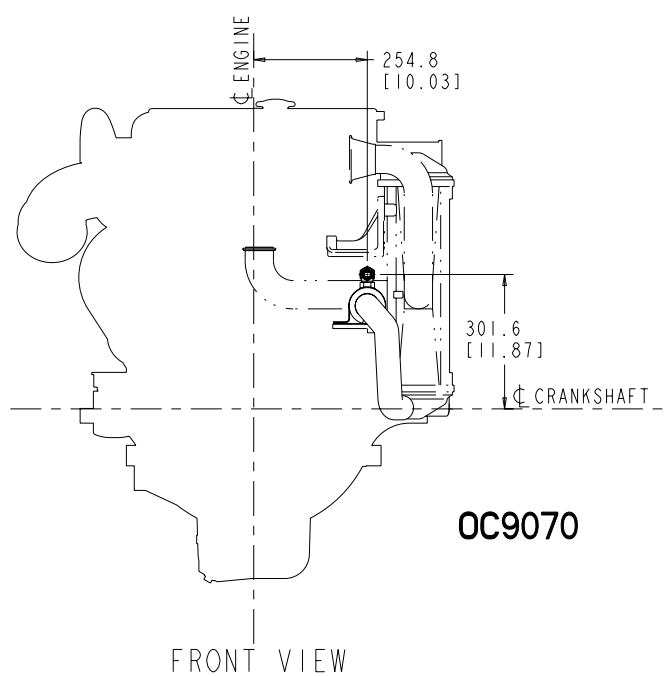
UNCONTROLLED COPY



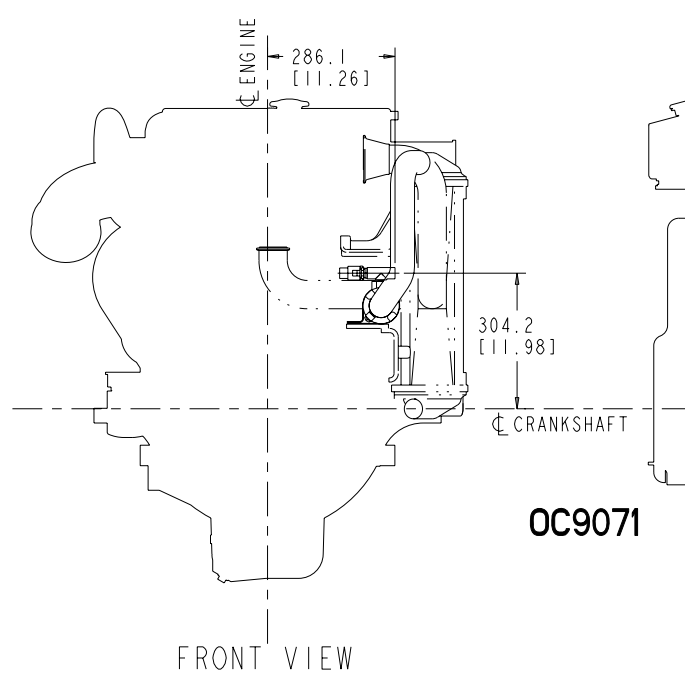
OC9054



OC9056



OC9070



OC9071

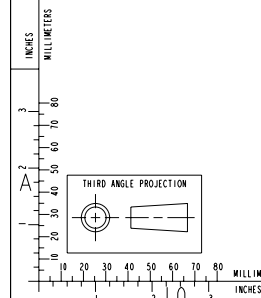
- | | | |
|--|---|--|
| <ul style="list-style-type: none"> ① CENTINEL VALVE OIL SUPPLY CONNECTION- N/A ② CRANKCASE PRESSURE PORT ③ GEAR OIL INLET TO COOLER CONNECTION ④ GEAR OIL INLET TO COOLER PRESSURE PORT- N/A ⑤ GEAR OIL INLET TO COOLER TEMPERATURE PORT- N/A | <ul style="list-style-type: none"> ⑥ GEAR OIL OUTLET FROM COOLER CONNECTION ⑦ GEAR OIL OUTLET FROM COOLER PRESSURE PORT- N/A ⑧ GEAR OIL OUTLET FROM COOLER TEMPERATURE PORT- N/A ⑨ OIL DRAIN BOSS ⑩ OIL GALLERY TEMPERATURE PORT | <ul style="list-style-type: none"> ⑪ OIL PRESSURE GAUGE PORT, AFTER FILTER ⑫ OIL SUMP TEMPERATURE PORT ⑬ REMOTE OIL FILTER RETURN CONNECTION ⑭ REMOTE OIL FILTER SUPPLY CONNECTION |
|--|---|--|

LUBE OIL SYSTEM

DO NOT SCALE THIS DRAWING
THIS DRAWING/DATA FILE (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE USED, DISCLOSED TO OTHERS, OR REPRODUCED BY ANY MEANS FOR ANY PURPOSE IN HARD COPY FORM OR IN MACHINE READABLE FILES, WITHOUT WRITTEN CONSENT OF CUMMINS INC., MARKETING CAD SERVICES DEPARTMENT.

PRODUCT GRAPHICS FILE
NO ORIGINAL DRAWING EXISTS FOR THIS ITEM. THE ENGINEERING GRAPHICS DATA FOR THIS ITEM RESIDES IN THE PRODUCT GRAPHICS FILE AND IS CONTROLLED BY THE AGENCY DESIGNATED AS HAVING ITEM CONTROL.

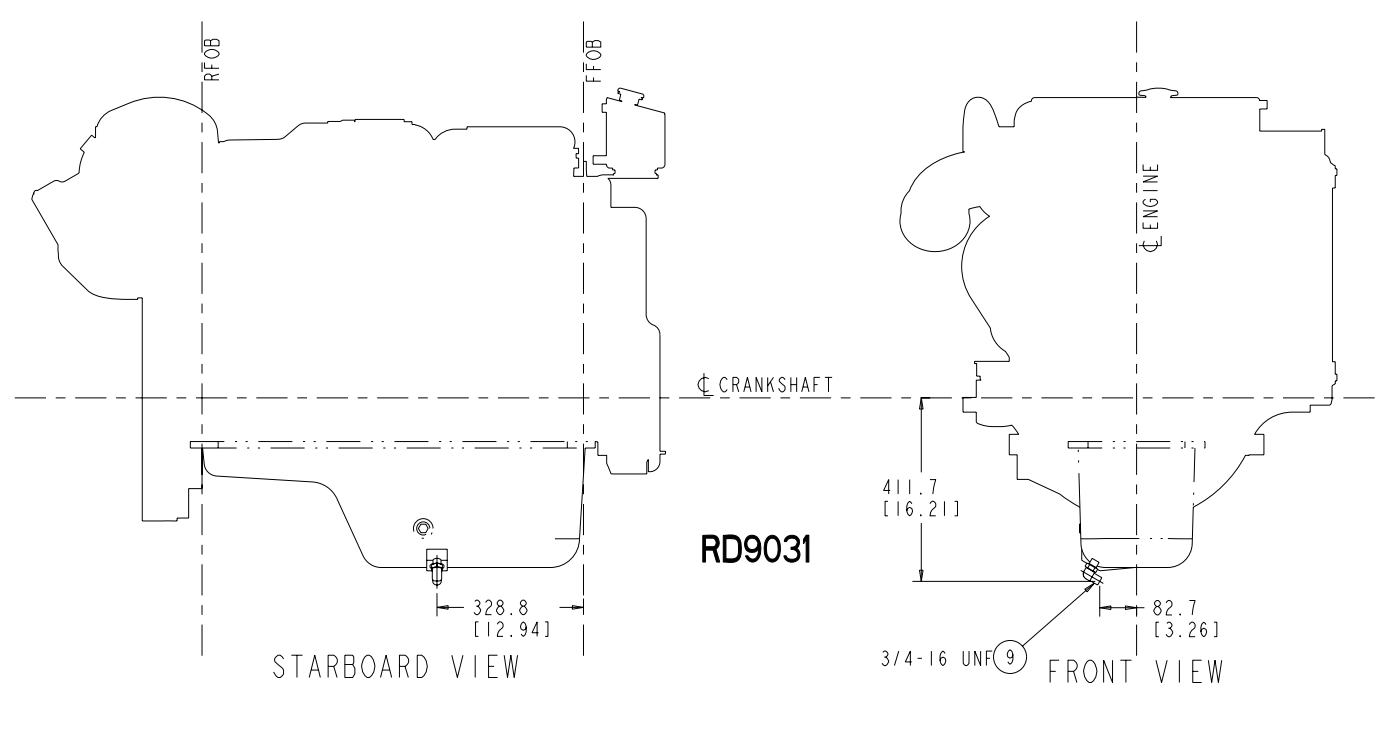
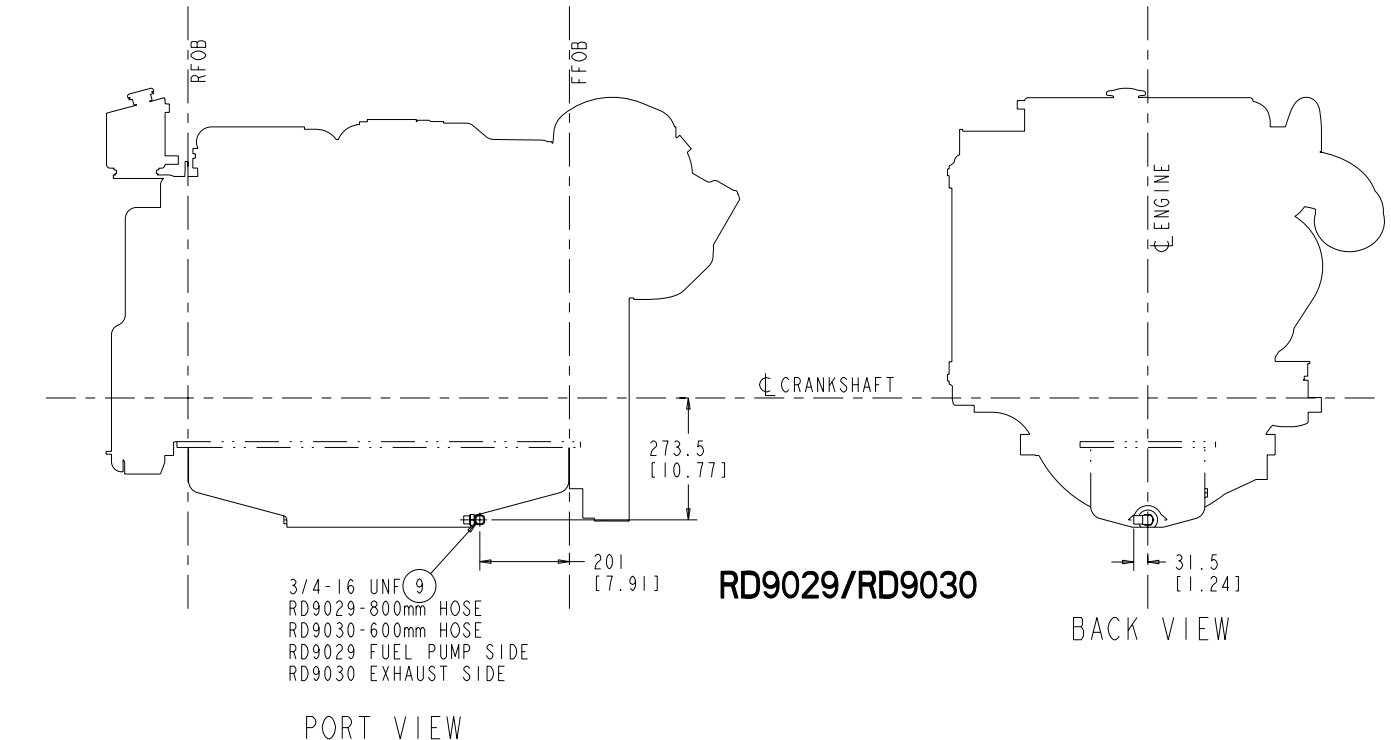
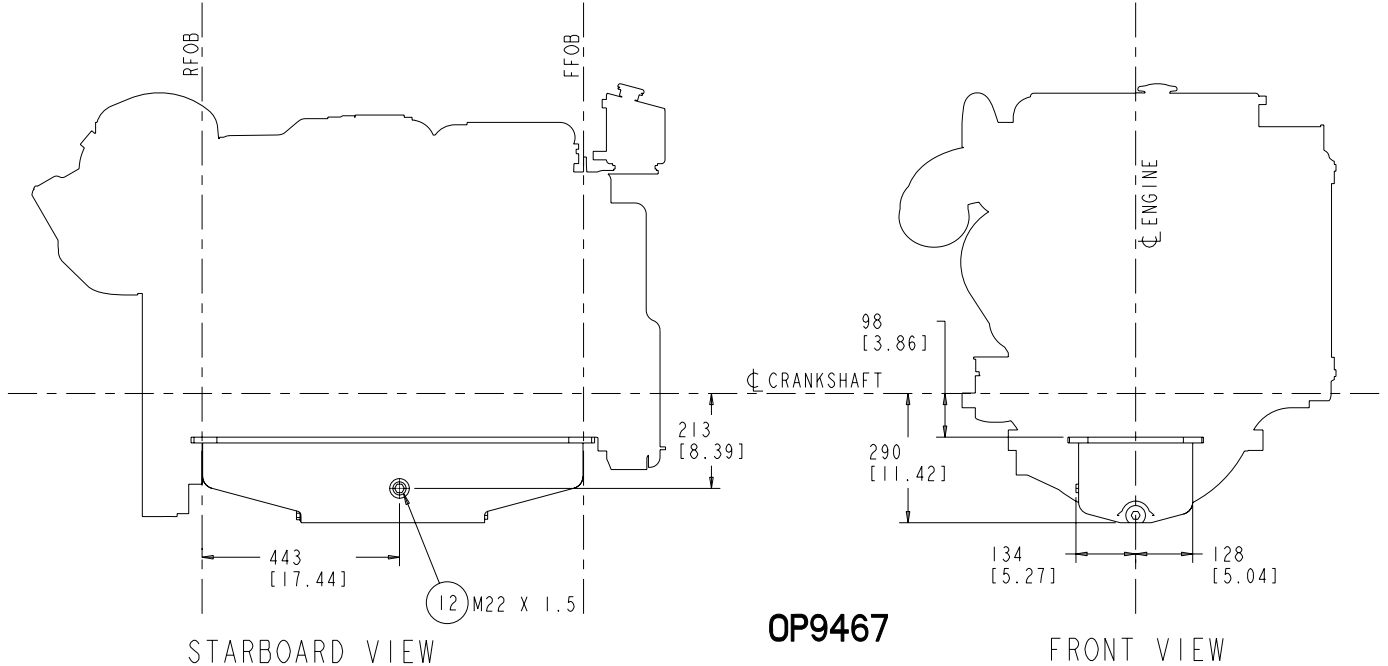
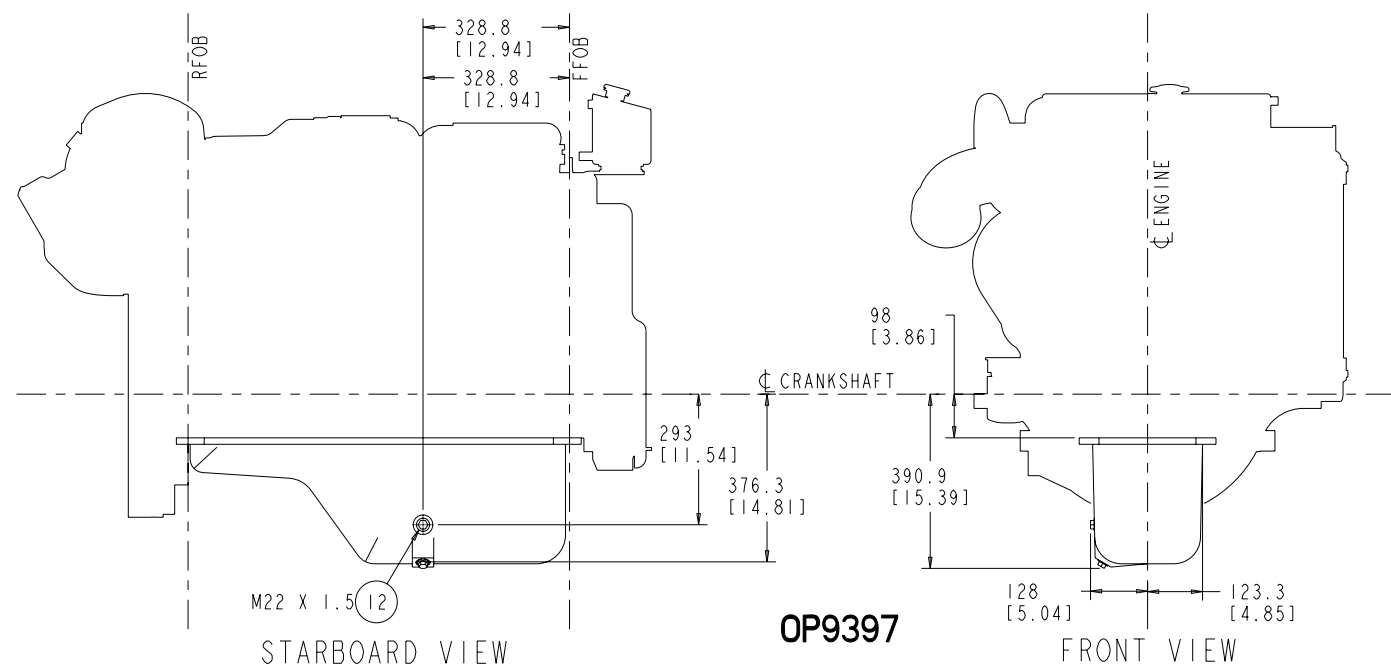
LAST SECTION LETTER USED: A	REF. DRAWING STANDARDS: ANSI Y14.5M ISO 81101	CUMMINS INC.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN: MILLIMETERS () ARE IN: INCHES	ITEM NAME OSL9-HX	IDENTIFIER	ITEM NUMBER
DWN: TMO/ANG CHD: UNCHECKED APPD:	SIZE CODE (IDENT. NO.) J	3170591	
	SCALE: 2:1	ITEM CONTROL: MCS	SHEET 16 OF 21



ITEM NUMBER
3170591

REVISIONS			
ZONE	REV	DESCRIPTION	APP'D
02	OSL9-HX		

UNCONTROLLED COPY

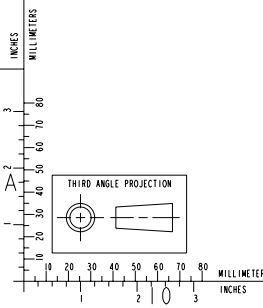


- | | | |
|--|---|--|
| <ul style="list-style-type: none"> ① CENTINEL VALVE OIL SUPPLY CONNECTION- N/A ② CRANKCASE PRESSURE PORT ③ GEAR OIL INLET TO COOLER CONNECTION ④ GEAR OIL INLET TO COOLER PRESSURE PORT- N/A ⑤ GEAR OIL INLET TO COOLER TEMPERATURE PORT- N/A | <ul style="list-style-type: none"> ⑥ GEAR OIL OUTLET FROM COOLER CONNECTION ⑦ GEAR OIL OUTLET FROM COOLER PRESSURE PORT- N/A ⑧ GEAR OIL OUTLET FROM COOLER TEMPERATURE PORT- N/A ⑨ OIL DRAIN BOSS ⑩ OIL GALLERY TEMPERATURE PORT | <ul style="list-style-type: none"> ⑪ OIL PRESSURE GAUGE PORT, AFTER FILTER ⑫ OIL SUMP TEMPERATURE PORT ⑬ REMOTE OIL FILTER RETURN CONNECTION ⑭ REMOTE OIL FILTER SUPPLY CONNECTION |
|--|---|--|

LUBE OIL SYSTEM

DO NOT SCALE THIS DRAWING
THIS DRAWING/DATA FILE (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE USED, DISCLOSED TO OTHERS, OR REPRODUCED BY ANY MEANS FOR ANY PURPOSE IN HARD COPY FORM OR IN MACHINE READABLE FILES, WITHOUT WRITTEN CONSENT OF CUMMINS INC., MARKETING CAD SERVICES DEPARTMENT.

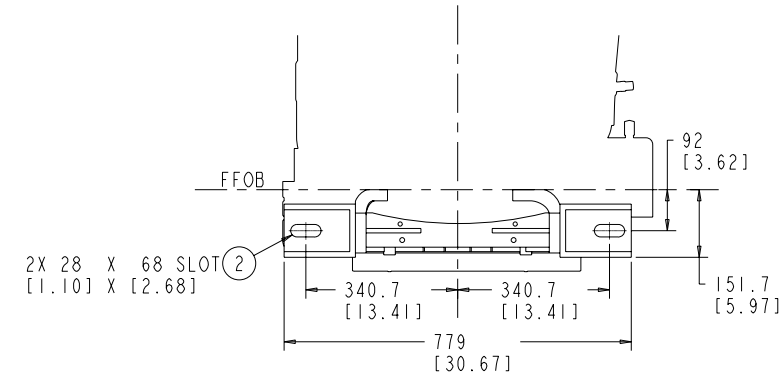
LAST SECTION LETTER USED: A	REF. DRAWING STANDARDS: ANSI Y14.5M ISO 81101	CUMMINS INC.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN: MILLIMETERS () ARE IN: INCHES	ITEM NAME OSL9-HX	IDENTIFIER INSTALLATION DIAGRAM	
DWN: UNCHECKED CHD: UNCHECKED APPD: UNCHECKED	SIZE CODE (IDENT. NO.) J	ITEM NUMBER 3170591	ITEM CONTROL: MCS
SCALE: 2:1		SHEET 17 OF 21	



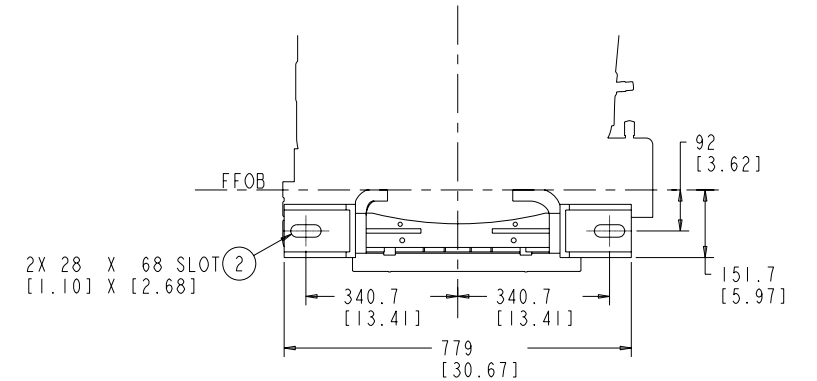
ITEM NUMBER
3170591

REVISIONS			
ZONE	REV	DESCRIPTION	APP'D
02	OSL9-HX		

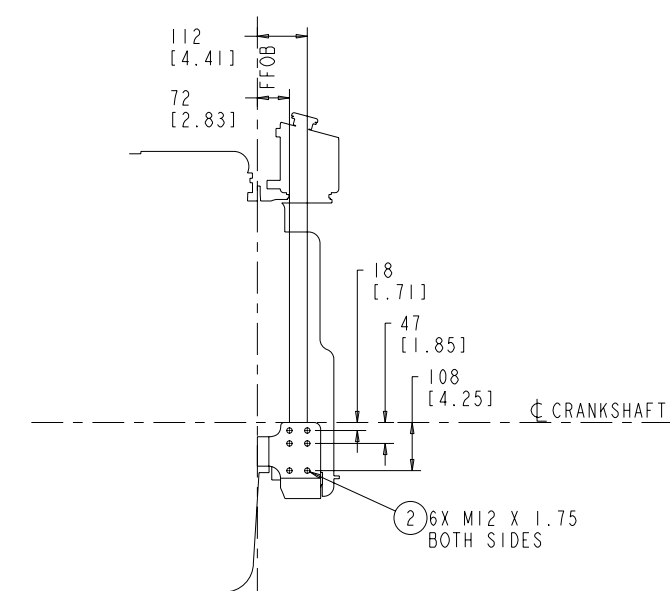
UNCONTROLLED COPY



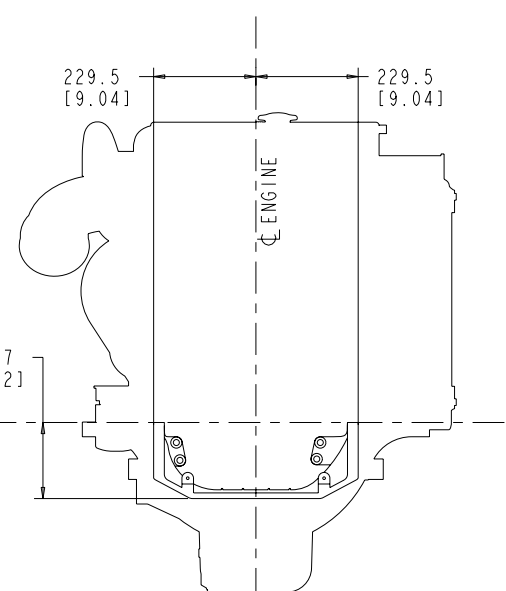
TOP VIEW



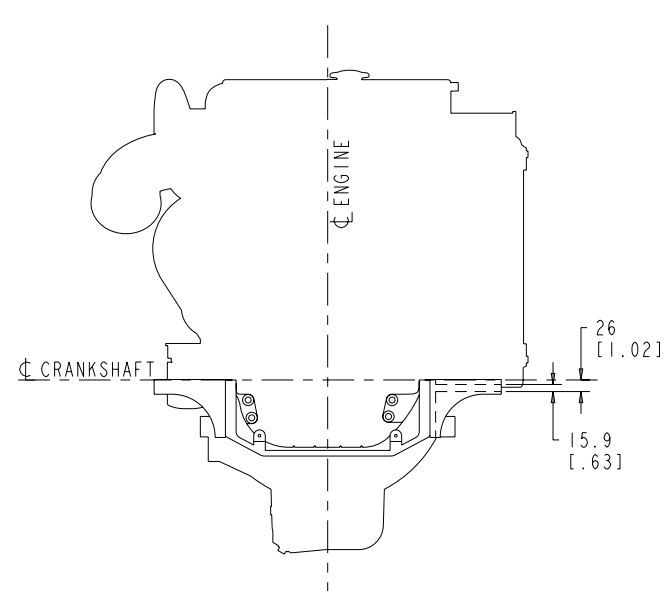
TOP VIEW



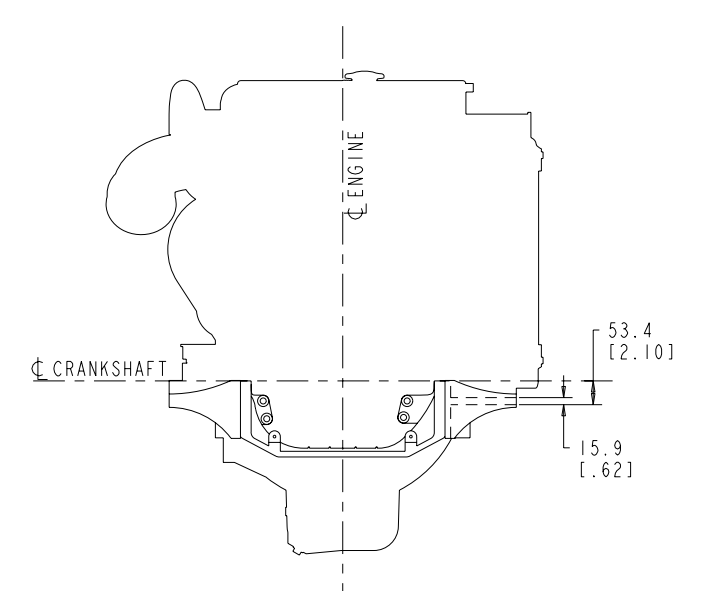
STARBOARD VIEW



FRONT VIEW



FRONT VIEW



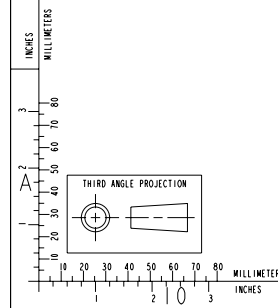
FRONT VIEW

EM9210

EM9228

EM9229

PRODUCT GRAPHICS FILE
NO ORIGINAL DRAWING EXISTS FOR THIS ITEM. THE ENGINEERING GRAPHICS DATA FOR THIS ITEM RESIDES IN THE PRODUCT GRAPHICS FILE AND IS CONTROLLED BY THE AGENCY DESIGNATED AS HAVING ITEM CONTROL.



- | | |
|-------------------------------|----------------------------------|
| ① FLYWHEEL HOUSING BOLT HOLES | ④ REAR MOUNT BOLT HOLE |
| ② FRONT MOUNT BOLT HOLE | ⑤ SPEED SENSOR (ECM) PORT |
| ③ JACKING SCREW BOLT HOLE | ⑥ SPEED SENSOR (TACHOMETER) PORT |

DO NOT SCALE THIS DRAWING
THIS DRAWING/DATA FILE (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE USED, DISCLOSED TO OTHERS, OR REPRODUCED BY ANY MEANS FOR ANY PURPOSE IN HARD COPY FORM OR IN MACHINE READABLE FILES, WITHOUT WRITTEN CONSENT OF CUMMINS INC., MARKETING CAD SERVICES DEPARTMENT.

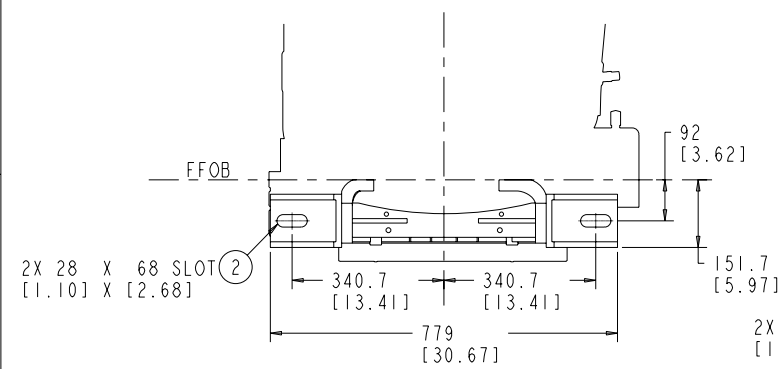
MOUNTING SYSTEM

LAST SECTION LETTER USED: A	REF. DRAWING STANDARDS: ANSI Y14.5M ISO 81101	CUMMINS INC.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN: MILLIMETERS () ARE IN: INCHES		ITEM NAME OSL9-HX	IDENTIFIER
DWN: UNCHECKED	APPD: UNCHECKED	SIZE CODE (IDENT. NO.):	ITEM NUMBER 3170591
SCALE: 2:1		ITEM CONTROL: MCS	SHEET 18 OF 21

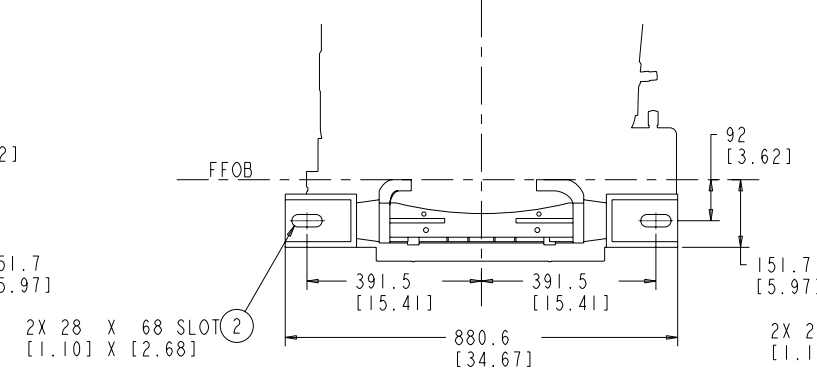
ITEM NUMBER
3170591

REVISIONS			
ZONE	REV	DESCRIPTION	APP'D
02	OSL9-HX		

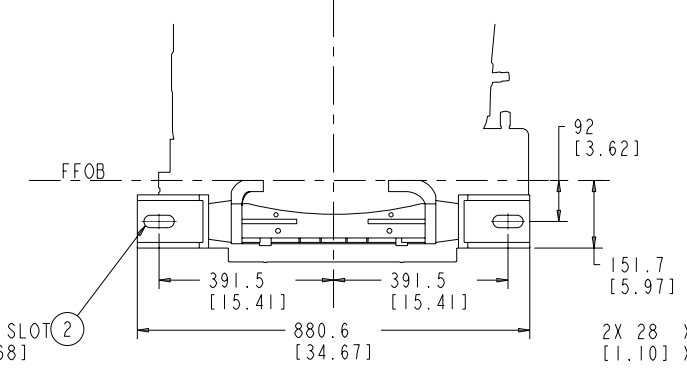
UNCONTROLLED COPY



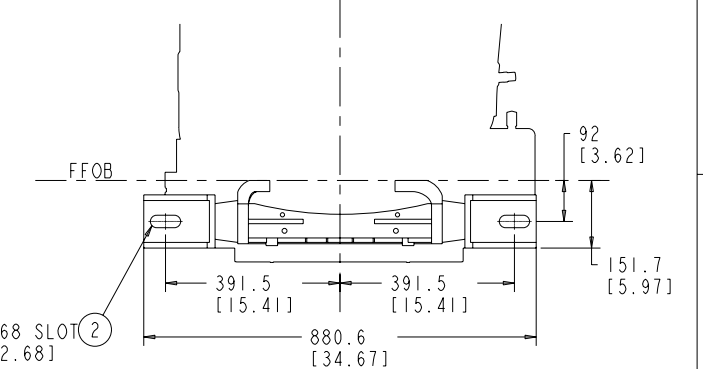
TOP VIEW



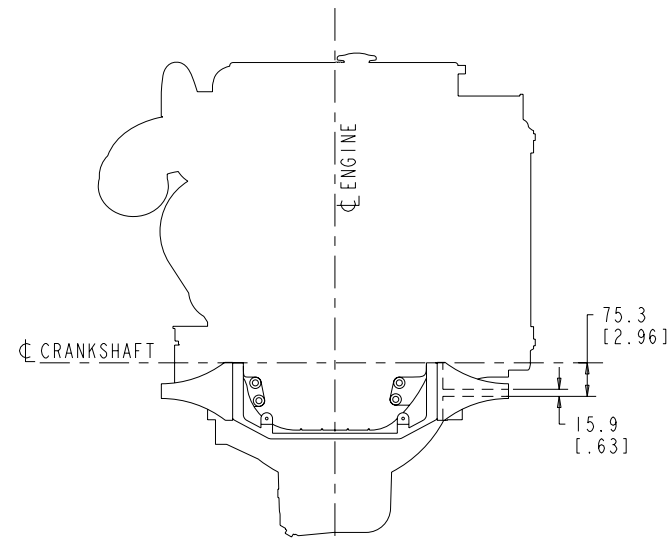
TOP VIEW



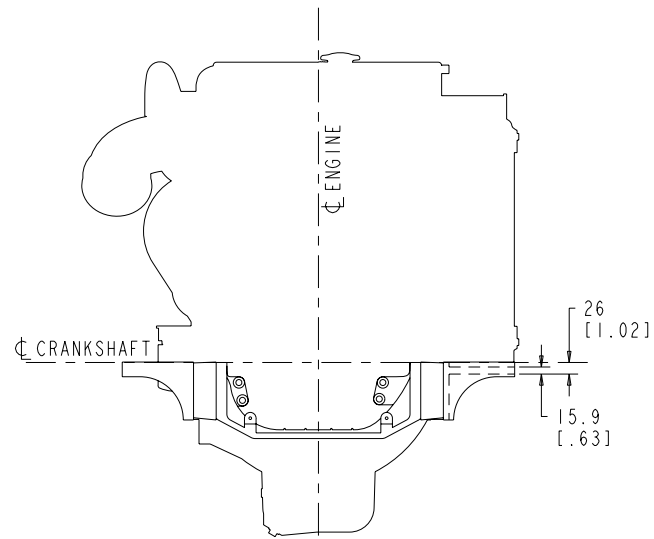
TOP VIEW



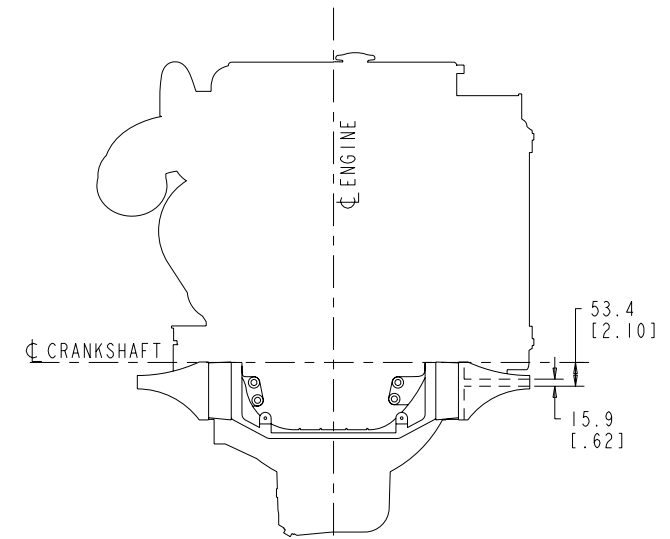
TOP VIEW



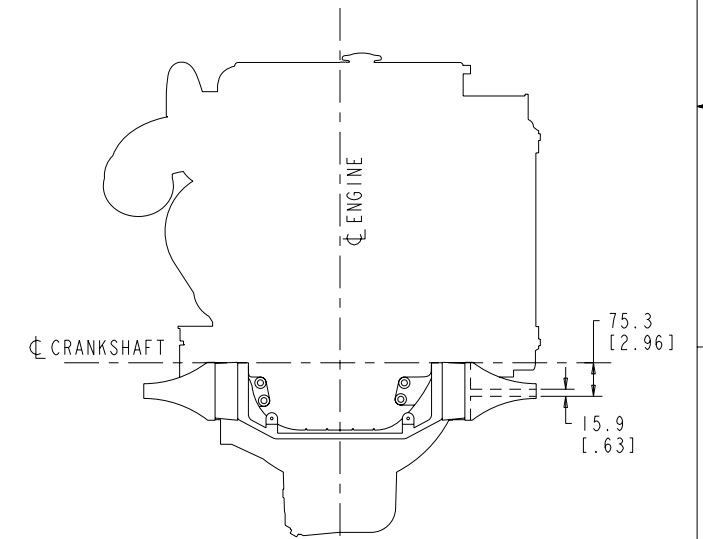
FRONT VIEW
EM9230



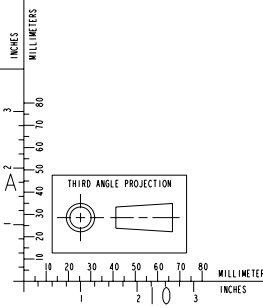
FRONT VIEW
EM9231



FRONT VIEW
EM9232



FRONT VIEW
EM9233



- | | |
|-------------------------------|----------------------------------|
| ① FLYWHEEL HOUSING BOLT HOLES | ④ REAR MOUNT BOLT HOLE |
| ② FRONT MOUNT BOLT HOLE | ⑤ SPEED SENSOR (ECM) PORT |
| ③ JACKING SCREW BOLT HOLE | ⑥ SPEED SENSOR (TACHOMETER) PORT |

DO NOT SCALE THIS DRAWING
THIS DRAWING/DATA FILE (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE USED, DISCLOSED TO OTHERS, OR REPRODUCED BY ANY MEANS FOR ANY PURPOSE IN HARD COPY FORM OR IN MACHINE READABLE FILES, WITHOUT WRITTEN CONSENT OF CUMMINS INC., MARKETING CAD SERVICES DEPARTMENT.

PRODUCT GRAPHICS FILE
NO ORIGINAL DRAWING EXISTS FOR THIS ITEM. THE ENGINEERING GRAPHICS DATA FOR THIS ITEM RESIDES IN THE PRODUCT GRAPHICS FILE AND IS CONTROLLED BY THE AGENCY DESIGNATED AS HAVING ITEM CONTROL.

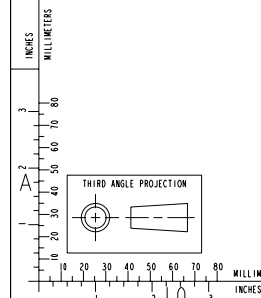
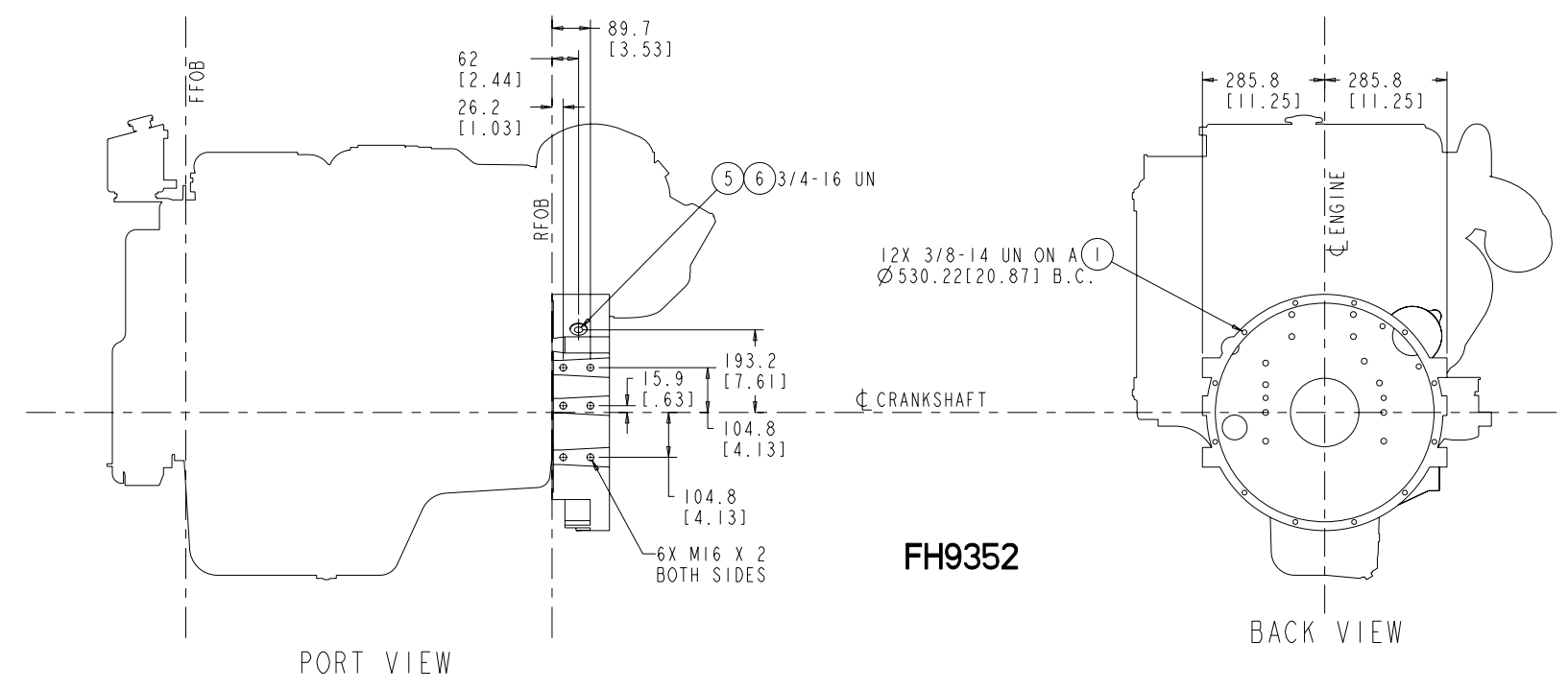
LAST SECTION LETTER USED: A	REF. DRAWING STANDARDS: ANSI Y14.5M ISO 81101	CUMMINS INC.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN: MILLIMETERS () ARE IN: INCHES	ITEM NAME OSL9-HX	IDENTIFIER	ITEM NUMBER
DWN: TMO/TGANG	SCALE: 2:1	SIZE CODE IDENT. NO.:	3170591
CHD: UNCHECKED	APPD:	ITEM CONTROL: MCS	SHEET 19 OF 21

MOUNTING SYSTEM

ITEM NUMBER
3170591

REVISIONS			
ZONE	REV	DESCRIPTION	APP'D
02	OSL9-HX		

UNCONTROLLED COPY



- | | |
|-------------------------------|----------------------------------|
| ① FLYWHEEL HOUSING BOLT HOLES | ④ REAR MOUNT BOLT HOLE |
| ② FRONT MOUNT BOLT HOLE | ⑤ SPEED SENSOR (ECM) PORT |
| ③ JACKING SCREW BOLT HOLE | ⑥ SPEED SENSOR (TACHOMETER) PORT |

DO NOT SCALE THIS DRAWING

THIS DRAWING/DATA FILE (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE USED, DISCLOSED TO OTHERS, OR REPRODUCED BY ANY MEANS FOR ANY PURPOSE IN HARD COPY FORM OR IN MACHINE READABLE FILES, WITHOUT WRITTEN CONSENT OF CUMMINS INC., MARKETING CAD SERVICES DEPARTMENT.

PRODUCT GRAPHICS FILE
NO ORIGINAL DRAWING EXISTS FOR THIS ITEM. THE ENGINEERING GRAPHICS DATA FOR THIS ITEM RESIDES IN THE PRODUCT GRAPHICS FILE AND IS CONTROLLED BY THE AGENCY DESIGNATED AS HAVING ITEM CONTROL.

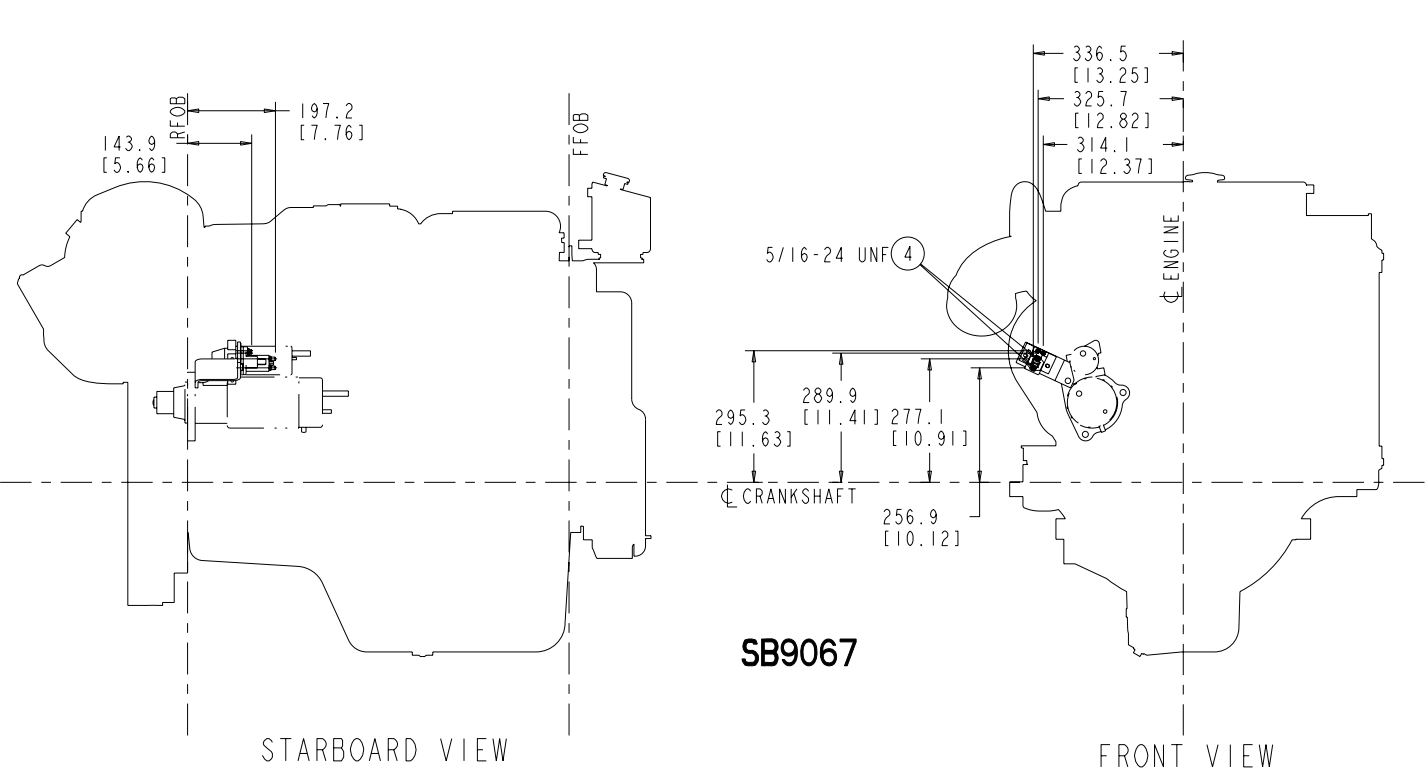
LAST SECTION LETTER USED: A	REF. DRAWING STANDARDS: ANSI Y14.5M ISO 81101	CUMMINS INC.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN: MILLIMETERS () ARE IN: INCHES		ITEM NAME QSL9-HX	IDENTIFIER
DWN: TMO/TGANG CHD: UNCHECKED APPD:		SIZE CODE (IDENT. NO.) J	ITEM NUMBER 3170591
		SCALE: 200	ITEM CONTROL: MCS SHEET 20 OF 21

MOUNTING SYSTEM

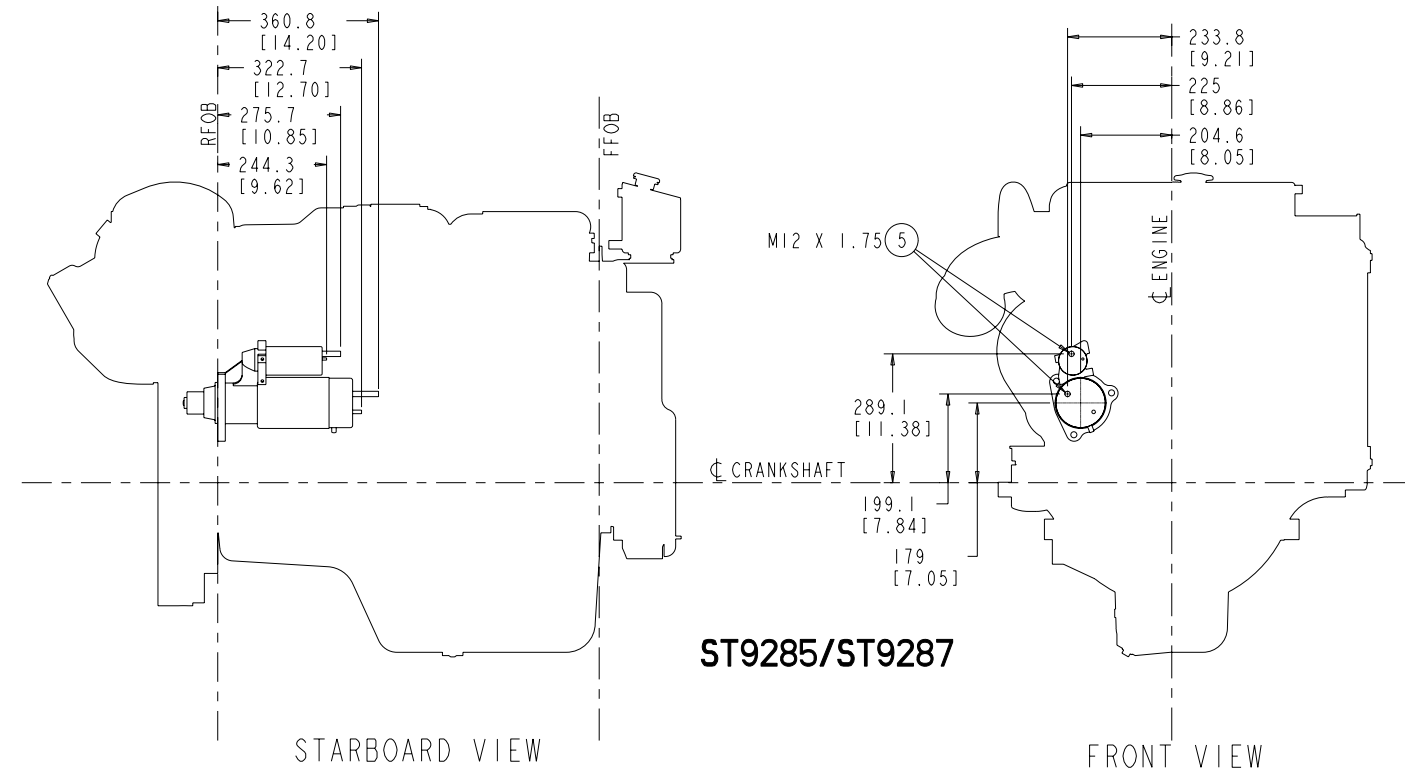
ITEM NUMBER
3170591

REVISIONS			
ZONE	REV	DESCRIPTION	APP'D
02	OSL9-HX		

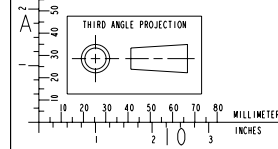
UNCONTROLLED COPY



SB9067



ST9285/ST9287



- ① COMPRESSED AIR SUPPLY CONNECTION- N/A
- ② ENGAGEMENT CONTROL (AIR IN)- N/A
- ③ ENGAGEMENT CONTROL (AIR OUT)- N/A
- ④ STARTER RELAY SWITCH TERMINALS
- ⑤ STARTER TERMINALS

DO NOT SCALE THIS DRAWING

THIS DRAWING/DATA FILE (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE USED, DISCLOSED TO OTHERS, OR REPRODUCED BY ANY MEANS FOR ANY PURPOSE IN HARD COPY FORM OR IN MACHINE READABLE FILES, WITHOUT WRITTEN CONSENT OF CUMMINS INC., MARKETING CAD SERVICES DEPARTMENT.

PRODUCT GRAPHICS FILE
NO ORIGINAL DRAWING EXISTS FOR THIS ITEM. THE ENGINEERING GRAPHICS DATA FOR THIS ITEM RESIDES IN THE PRODUCT GRAPHICS FILE AND IS CONTROLLED BY THE AGENCY DESIGNATED AS HAVING ITEM CONTROL.

LAST SECTION LETTER USED: A	REF. DRAWING STANDARDS: ANSI Y14.5M ISO 81101	CUMMINS INC.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN: MILLIMETERS () ARE IN: INCHES	ITEM NAME QSL9-HX	IDENTIFIER	ITEM NUMBER
DWN: TMO/FGANG CHD: UNCHECKED APPD:	SCALE: 2:1	SIZE CODE (IDENT. NO.): J	3170591
		ITEM CONTROL: MCS	SHEET 21 OF 21

STARTING SYSTEM