

Sales Order

Order Number: 0153497

Order Date: 12/11/2017

Salesperson: 0087

Customer Number: 0002431

Sold To:

Ship To:

Customer P.O.	Ship VIA	F.O.B.	Terms			
Item Code	Unit	Ordered	Shipped	Back Order	Price	Amount
C118BRB	EACH	1	0	0		
SHORT BLOCK ARR		Whse: 000				
SOLD FOR						
ENGINE S/N RSX12670 ENGINE ARR #2929282						

Cat 725 S/N 01L02133

Net Order:
Less Discount:
Freight:
Sales Tax:
Order Total: 9,750.00

12/15/2017

08:28:49

EQUIPMENT MANAGEMENT SYSTEM

EMSM4000

CUSTODIAN: FM

LINE ITEM MENU

EMSAMNL8

RO EQUIP.: 200456

RO NUM: 038 R 113992

ACT: U

EQ STATUS: SERV

LINE ITEM NUMBER:

L/P/T/C/Q:

SEL LI#	REPAIR DESCRIPTION	HOURS	LABOR \$	PARTS \$	COMSUB \$
1	TRN21 OVERHAUL TRANSMISSI				
2	BAT23 REPLACE 2 BATTERIES				
3	HYD35 TANK, HYDRAULIC				
4	FUL15 TANK, FUEL				

PF1 PENDING WORK

PF4 TO LINE ITEM

PF11 LI TRANSFER

PF15 P/L ADD

PF2 PM/METER

PF5 EQ OPEN RO'S

PF12 SPECIFIC DATA

EST ESTIMATES

PF3 QUICK REGIS

PF6 EQ RO HIST 1

PF14 MOD EQ STATUS

LINES LINE ITEMS

RESPONSE

REPAIR ORDER DISPLAY COMPLETED

58,717.81

12/15/2017

EMSM4110

08:31:09 E Q U I P M E N T M A N A G E M E N T S Y S T E M

EMSAMCMC

CUSTODIAN: FM

COMSUB - MISC DATA

ACT: U

RO EQUIP.: 200456

RO NUM: 038 R 113992

LI#: 1

REPAIR TYPE: TRN21 OVERHAUL TRANSMISSION

COMSUB DATA

MOD	VENDOR TYPE	PO NUM	DOCUMENT	LABOR	PARTS	MISC	DATE
		134	SVI148479			32897.17	10 07 2014
		KELLY TRACTOR COMPAN					

12 15 2017

12 15 2017

MOD	COST	DESCRIPTION	DATE
			12 15 2017
			12 15 2017
			12 15 2017

ENTER INQUIRE

PF3 RO MENU

PF6 DOCUMENT SEARCH

PF9 QUICK RO

PF1 UPDATE

PF4 LABOR

PF7 CLEAR

PF12 SPEC DATA

PF2 INIT DATA

PF5 PARTS

PF8 NEXT LINE ITEM

RESPONSE=>

12/15/2017

08:31:40

EQUIPMENT MANAGEMENT SYSTEM

EMSM4110

CUSTODIAN: FM

COMSUB - MISC DATA

EMSAMCMC

RO EQUIP.: 200456

RO NUM: 038 R 113992

ACT: U

LI#: 2

REPAIR TYPE: BAT23 REPLACE 2 BATTERIES

COMSUB DATA

MOD	VENDOR TYPE	PO NUM	DOCUMENT	LABOR	PARTS	MISC	DATE
		134	SVI148479			649.99	10 07 2014
		KELLY TRACTOR COMPAN					

12 15 2017

12 15 2017

MOD	COST	MISC DATA DESCRIPTION
-----	------	--------------------------

DATE
12 15 2017
12 15 2017
12 15 2017

ENTER INQUIRE

PF3 RO MENU

PF6 DOCUMENT SEARCH

PF9 QUICK RO

PF1 UPDATE

PF4 LABOR

PF7 CLEAR

PF12 SPEC DATA

PF2 INIT DATA

PF5 PARTS

PF8 NEXT LINE ITEM

RESPONSE=>

12/15/2017

EMSM4110

08:31:56 E Q U I P M E N T M A N A G E M E N T S Y S T E M

EMSAMCMC

CUSTODIAN: FM

COMSUB - MISC DATA

ACT: U

RO EQUIP.: 200456

RO NUM: 038 R 113992

LI#: 3

REPAIR TYPE: HYD35 TANK, HYDRAULIC

COMSUB DATA

MOD	VENDOR TYPE	PO NUM	DOCUMENT	LABOR	PARTS	MISC	DATE
134			SVI148479			15156.76	10 07 2014

12 15 2017

12 15 2017

MOD	COST	DESCRIPTION	DATE
			12 15 2017
			12 15 2017
			12 15 2017

ENTER INQUIRE	PF3 RO MENU	PF6 DOCUMENT SEARCH	PF9 QUICK RO
PF1 UPDATE	PF4 LABOR	PF7 CLEAR	PF12 SPEC DATA
PF2 INIT DATA	PF5 PARTS	PF8 NEXT LINE ITEM	RESPONSE=>

12/15/2017

08:32:14

E Q U I P M E N T M A N A G E M E N T S Y S T E M

EMSM4110

CUSTODIAN: FM

COMSUB - MISC DATA

EMSAMCMC

RO EQUIP.: 200456

RO NUM: 038 R 113992

ACT: U

LI#: 4

REPAIR TYPE: FUL15 TANK. FUEL

COMSUB DATA

MOD	VENDOR TYPE	PO NUM	DOCUMENT	LABOR	PARTS	MISC	DATE
134			SVI148479			10013.89	10 07 2014

12 15 2017

12 15 2017

MOD	COST	MISC DATA DESCRIPTION	DATE
			12 15 2017
			12 15 2017
			12 15 2017

ENTER INQUIRE

PF3 RO MENU

PF6 DOCUMENT SEARCH

PF9 QUICK RO

PF1 UPDATE

PF4 LABOR

PF7 CLEAR

PF12 SPEC DATA

PF2 INIT DATA

PF5 PARTS

PF8 NEXT LINE ITEM

RESPONSE=>

12/15/2017

EMSM4030

08:32:26 E Q U I P M E N T M A N A G E M E N T S Y S T E M

EMSAUSPC

CUSTODIAN: FM

REPAIR ORDER - SPECIFIC DATA

ACT: U

RO EQUIP.: 200456

RO NUM: 038 R 113992

RO STATUS: C

OPEN DATE: 06 19 2014 TIME: 08 45 ASG SHOP: 038

USER ID.: LGA

CLOSE DTE: 10 07 2014 TIME: 08 53 INV SHOP: 038

BILL DATE: 201410

XREF.....:

BILL SW.: Y

OWN INDEX:

WORK CLSS: Y UNSCHEDULED

CHR INDEX:

REASON CD: J SHOP REQUEST

DOWNTIME: A

DOWN HRS.: 640.1 ?:

COMMENTS: REPAIR TRANSMISSION LEAK/REPLACE BATTERY/REPLACE

20141007

RO INFO.: HYDRAULIC TANK/REPLACE FUEL TANK/

HOURS

LABOR

PARTS

COMSUB

MISC

TOTALS

58,717.81

58,717.81

PF1 UPDATE PF3 RO MENU PF6 INDEXES PF7 CLOSE PF11 DELETE RESPONSE>

TOTAL EXCEEDS 10,000. IF AMOUNT OK, TYPE "YES" AFTER <?:>, THEN HIT <PF7>

Cat Electronic Technician 2017A v1.0

Product Status Report

6/25/2018 5:06 PM

Product Status Report

Parameter	Value
Product ID	B1L02133
Equipment ID	B1L02133
Comments	

Transmission 725 (JRH05175)

Parameter	Value
Product ID	B1L02133
Equipment ID	B1L02133
ECM Part Number	3045687-02
ECM Serial Number	24516160MS
Software Group Part Number	4335813-00
Software Group Release Date	NOV2012
Software Group Description	725(B1L00505-up)



Logged Diagnostic Codes [Diagnostic Clock = 16717.0864 hours] - Transmission 725 (JRH05175)

Code	Description	Occ.	First	Last
No Logged Diagnostic Codes				

Logged Event Codes [Diagnostic Clock = 16717.0864 hours] - Transmission 725 (JRH05175)

Code	Description	Occ.	First	Last
No Logged Event Codes				

Active Diagnostic Codes - Transmission 725 (JRH05175)

Code	Description
No Active Diagnostic Codes	

Active Event Codes - Transmission 725 (JRH05175)

Code	Description
No Active Event Codes	

Current Totals - Transmission 725 (JRH05175)

Description	Value	Unit
Total Operating Hours	16717	hours

Total Forward Distance	36892.47	Miles
Total Reverse Distance	232.64	Miles
Total Distance	17534.03	Miles

Configuration - Transmission 725 (JRH05175)

Description	Value	Unit
Equipment ID	B1L02133	
Product ID	B1L02133	
Transmission Serial Number	JRH05175	
Transmission Maximum Forward Gear	6	
Body Float Gear Limit	1	
Body Up Sensor Installation Status	Not Installed	
Body Up Gear Limit	1	
Top Drive Gear Select Enable Status	Enabled	
Transmission Hold Enable Status	Enabled	
Throttle Deactivated Retarding Enable Status	Enabled	
Hoist System Enable Status	Enabled	
Hoist Lower Valve Adjustment Status	0	
High Pressure Hydraulic Oil Filter Switch Config	Not Installed	
Information Units Status	English	
Auto Lube System Installation Status	Unavailable	
Cycle Counter Feature Installation Status	Not Installed	
Ambient Air Temperature Operating Condition Configuration	Normal	
First Forward Gear Lockup Clutch Enable	Enabled	
Transmission Configuration Code	1	
Operator #1 Name	Unavailable	
Operator #2 Name	Unavailable	
Operator #3 Name	Unavailable	
Operator #4 Name	Unavailable	
Operator #5 Name	Unavailable	
Operator #6 Name	Unavailable	
Operator #7 Name	Unavailable	
Operator #8 Name	Unavailable	
Operator #9 Name	Unavailable	
Operator #10 Name	Unavailable	
Customer Password #1	*****	
Customer Password #2	*****	
Total Tattletale	5	

Calibration Status - Transmission 725 (JRH05175)

Calibration	Status	Last Successful Completion
Retarder Performance Calibration	Unknown	Unknown
Transmission Fill Calibration	Unknown	Unknown

190- 8	Engine Speed Sensor : Abnormal Frequency, Pulse Width, or Period	127	16095	16705
342- 8	Secondary Engine Speed Sensor : Abnormal Frequency, Pulse Width, or Period	2	16703	16703

Logged Event Codes [Diagnostic Clock = 16717.0862 hours] - C11 725 (RSX12670)

Code	Description	Occ.	First	Last
E360 (1)	Low Engine Oil Pressure	127	15455	16704

Active Diagnostic Codes - C11 725 (RSX12670)

Code	Description
No Active Diagnostic Codes	

Active Event Codes - C11 725 (RSX12670)

Code	Description
No Active Event Codes	

Current Totals - C11 725 (RSX12670)

Description	Value	Unit
Total Fuel	47102	gal
Ether Usage	Unavailable	gal
* Total Idle Time	12648:36	hours
Total Idle Fuel	13509	gal
Total Max Fuel	251969	gal
* Total Operating Hours	16717	hours
Engine Starts	11118	
Lifetime Total Engine Revolutions	939685296	rev
Starts/Hour	0.67	
Average RPM	936.86	rpm
Percentage Idle Time	75.66	%
Average Fuel Rate	2.82	gal/h
Overall Load Factor	18	%

4068.64 hrs

Configuration - C11 725 (RSX12670)

Description	Value	Unit
Product ID	B1L02133	
Equipment ID	B1L02133	
Engine Serial Number	RSX12670	
ECM Part Number	2622878-01	
ECM Serial Number	07886543JL	
Software Group Part Number	4533110-00	
Software Group Release Date	NOV13	
Software Group Description	AT-725	
Engine Fan Control	On	
Ether Solenoid Configuration	Continuous Flow Solenoid	

Shift Count Matrix [Transmission Shift Counts Start Time = 0 hours] - Transmission 725 (JRH05175)

To	N	R	1	2	3	4	5	6
From								
N	—	3425	25150	6	1	0	3	0
R	5563	—	5822	0	0	0	0	0
1	22823	7910	—	52571	0	0	0	0
2	148	65	52365	—	59326	0	0	0
3	0	0	0	59322	—	45617	0	0
4	0	0	0	5	45612	—	7181	0
5	3	0	0	0	0	7181	—	135
6	0	0	0	0	0	0	135	—

Counters - Transmission 725 (JRH05175)

Description	Value
Lockup Clutch Count	149492
Differential Lock Kickout Occurrences	7
Differential Lock Switch Cycles	754
Interaxle Differential Lock Solenoid Cycles	754
Front Cross Axle Lock Solenoid Cycles	27
Top Drive Gear Switch Cycles	544
Transmission Hold Override Occurrences	608
Transmission Hold Switch Cycles	695
Service Brake Pressure Switch Cycles	144551
Retarder Pressure Switch Cycles	67105
Parking Brake Pressure Switch Cycles	31662
Parking Brake Solenoid Cycles	31890
Starter Relay Cycles	4918

Product Link (B1L02133) : Not Communicating

C11 725 (RSX12670)

Parameter	Value
Product ID	B1L02133
Equipment ID	B1L02133
Engine Serial Number	RSX12670
ECM Part Number	2622878-01
ECM Serial Number	07886543JL
Software Group Part Number	4533110-00
Software Group Release Date	NOV13
Software Group Description	AT-725
Active Diagnostic Codes Present	No

Logged Diagnostic Codes [Diagnostic Clock = 16717.0862 hours] - C11 725 (RSX12670)

Code	Description	Occ.	First	Last
1589- 3	Turbocharger Inlet Air Pressure Sensor : Voltage Above Normal	2	16706	16706

Lifetime: Time vs Boost Pressure - C11 725 (RSX12670)

Boost Pressure(psi)	hours	%
<12	55.55	5.19
12-12	37.75	3.52
13-14	57.95	5.41
15-15	115.45	10.78
16-16	293.05	27.36
17-18	464.50	43.36
19-19	46.65	4.36
20-21	0.25	0.02
22-22	0.00	0.00
23-24	0.00	0.00
25-25	0.00	0.00
26-27	0.00	0.00
28-28	0.00	0.00
>29	0.00	0.00

Lifetime: Time vs Engine Speed And Engine Load Factor - C11 725 (RSX12670)

rpm	<1100	1100-1299	1300-1499	1500-1699	1700-1899	1900-2099	2100-2299	>2300	Total
%									
<50	11936.35	315.60	528.55	566.25	387.20	140.90	10.75	0.05	13885.65
50-60	5.05	10.65	44.45	69.90	66.45	30.35	5.40	0.00	232.25
60-70	5.55	11.45	39.90	64.00	63.50	31.45	5.00	0.00	220.85
70-80	3.05	5.30	32.05	61.15	61.05	30.75	3.40	0.00	196.75
80-90	1.80	2.95	23.65	53.85	62.70	33.10	3.35	0.00	181.40
>90	1.85	39.55	182.75	334.50	349.30	171.85	11.30	0.00	1091.10
Total	11953.65	385.50	851.35	1149.65	990.20	438.40	39.20	0.05	15808.00

Lifetime: Total Occurrences vs Engine Speed - C11 725 (RSX12670)

Engine Speed(rpm)		%
<2500	0.00	0.00
2500-2599	16.00	55.17
2600-2699	8.00	27.59
2700-2799	1.00	3.45
2800-2899	0.00	0.00
2900-2999	1.00	3.45
3000-3099	0.00	0.00
3100-3199	0.00	0.00
3200-3299	0.00	0.00
>3300	3.00	10.34

Injector Trim Calibration - C11 725 (RSX12670)

Injector	Serial Number	File Version
Injector1	000000005E0084097684	0
Injector2	000000005E008409835C	0

Engine Warm Up Elevated Idle Feature Enable Status	Enabled	
Engine Warm Up Elevated Idle Delay Time	5.0	min
PTO Engine Speed Setting	1500	rpm
Security System Immobilizer Installation Status	Disabled or Not Installed	
Engine Governor Primary Mode Configuration	Speed Control	
FLS	49	
FTS	-86	
Total Tattletale	6	

Lifetime: Time vs Engine Coolant Temperature - C11 725 (RSX12670)

Engine Coolant Temperature(Deg F)	hours	%
<122	149.30	0.91
122-130	66.05	0.40
131-139	80.90	0.49
140-148	97.45	0.59
149-157	120.10	0.73
158-166	175.25	1.06
167-175	313.60	1.90
176-184	15447.65	93.83
185-193	12.50	0.08
194-202	0.25	0.00
203-211	0.00	0.00
212-220	0.00	0.00
221-229	0.00	0.00
230-238	0.00	0.00
239-247	0.00	0.00
>248	0.00	0.00

Lifetime: Time vs Inlet Air Temperature - C11 725 (RSX12670)

Inlet Air Temperature(Deg F)	hours	%
<104	127.80	11.93
104-112	216.85	20.24
113-121	504.75	47.12
122-130	219.15	20.46
131-139	2.45	0.23
140-148	0.10	0.01
149-157	0.05	0.00
158-166	0.00	0.00
167-175	0.00	0.00
176-184	0.00	0.00
185-193	0.00	0.00
194-202	0.00	0.00
203-211	0.00	0.00
>212	0.00	0.00

Injector3	000000005E008409945C	0
Injector4	000000005E008409886D	0
Injector5	000000005E0084098449	0
Injector6	000000005E008409896A	0

Monitoring System - C11 725 (RSX12670)

Description	State	Trip Point	Delay Time
Engine Overspeed			
Least Severe (1)	Always On	2550 rpm	0 sec
Moderate Severity (2)	Always On	2600 rpm	0 sec
High Air Filter Restriction Pressure			
Least Severe (1)	Always On	30.1 " H2O	30 sec
Moderate Severity (2)	Always On	36.1 " H2O	30 sec
High Engine Coolant Temperature			
Least Severe (1)	Always On	230 Deg F	10 sec
Moderate Severity (2)	Always On	232 Deg F	10 sec
High Engine Inlet Air Temperature			
Least Severe (1)	Always On	179.6 Deg F	8 sec
Moderate Severity (2)	Always On	186.8 Deg F	8 sec
High Fuel Filter Pressure Restriction			
Least Severe (1)	Always On	None	3600 sec
Moderate Severity (2)	Always On	None	14400 sec
High Fuel Pressure			
Least Severe (1)	Always On	109.9 psi	8 sec
High Fuel Temperature			
Least Severe (1)	Always On	194.0 Deg F	30 sec
Moderate Severity (2)	Always On	195.8 Deg F	10 sec
Low Engine Oil Pressure			
Least Severe (1)	Always On	None	8 sec
Moderate Severity (2)	Always On	None	4 sec

Engine Information

Work Order # BA01720 **Test Date:** 04-03-19 **Customer Name**
Engine Serial #: RSX12670 **DynoTech #:** 4238 **Full Load Power** 308 HP
Full Load Speed 1800 **High Idle/Low Idle** 700-2155 **Torque @ TC RPM** 1054 LBFT
Boost Pressure Min/Max 43inHG **Fuel Pressure Min/Max** 87PSI **Oil Pressure Min/Max** 51PSI

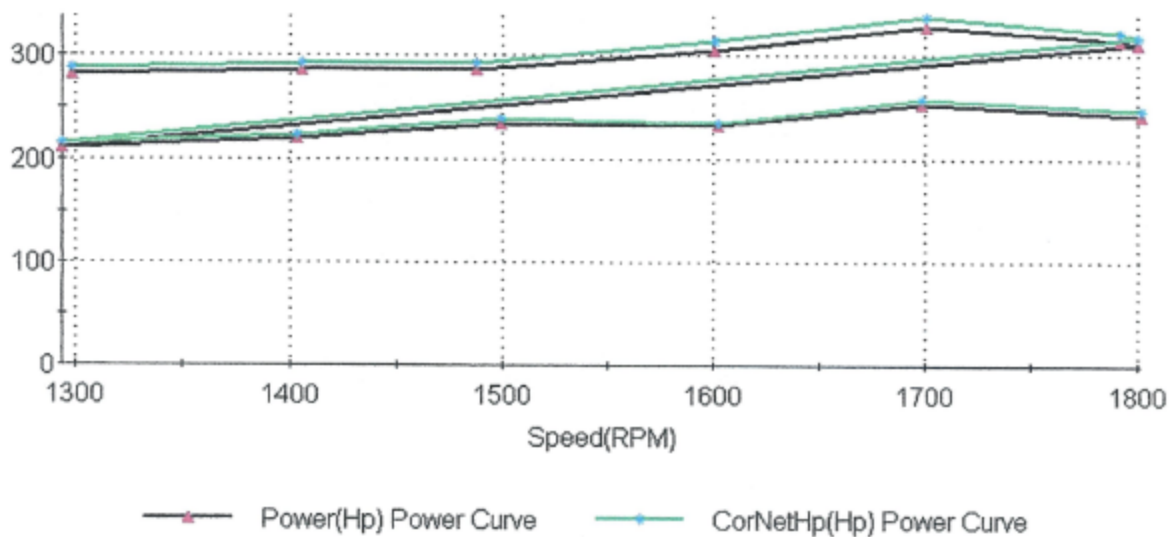
$\hookrightarrow \times .491154 = 21.119 \text{ pounds Boost}$

Performance Spreadsheet

Pt #	Time	Speed (RPM)	CorNetHp (Hp)	Torque (ft-lbs)	Fuel Vol.Burn (gal/hr)	Boost PSI 7(in Hg)	Fuel PSI 9 (PSI)	Oil PSI 5(PSI)	Exh Temp 13 (°F)
1	07:44:52	700	2	17	0	1	72	72	75
2	07:50:08	700	2	15	1	1	72	61	80
3	07:52:46	1300	9	38	1	2	78	76	83
4	07:57:47	1299	49	198	3	4	77	64	95
5	08:03:00	1499	102	350	6	14	78	69	124
6	08:08:01	1500	101	349	6	14	78	68	141
7	08:08:38	2126	61	144	2	12	83	86	143
8	08:10:17	1802	247	704	12	34	80	72	140
9	08:10:28	1698	258	784	9	34	79	67	139
10	08:10:34	1602	235	763	7	33	78	62	138
11	08:10:44	1499	239	823	11	32	77	56	138
12	08:10:52	1403	223	823	12	32	77	51	137
13	08:10:58	1294	215	857	12	32	76	49	137
14	08:16:25	1793	251	719	11	36	80	76	142
15	10:43:58	1801	318	908	13	43	80	76	619
16	10:44:26	1792	322	924	15	43	80	77	722
17	10:44:30	1700	338	1014	15	44	79	74	729
18	10:44:54	1601	315	1004	14	44	78	69	793
19	10:45:09	1488	293	1012	14	44	77	62	827
20	10:45:19	1406	293	1070	14	44	77	62	850
21	10:45:23	1298	287	1137	14	44	76	56	859
22	10:50:24	2003	304	782	15	42	81	80	685

23	10:52:31	1803	312	892	15	43	80	73	769
24	10:55:25	1798	310	883	14	44	79	71	791
25	11:00:26	1804	310	888	15	43	80	70	804
26	11:03:06	1301	287	1131	14	44	76	42	873
27	11:05:27	2086	286	702	14	42	82	80	753
28	11:08:08	1801	308	874	15	43	79	69	860
29	11:10:15	1801	307	872	15	43	79	68	827
30	11:10:28	2165	138	324	15	27	83	82	750
31	11:10:32	2160	117	273	14	22	83	82	707
32	11:12:05	659	4	30	2	2	70	15	NA
33	11:12:33	669	4	30	2	2	70	15	NA
34	11:12:47	0	0	-10	1	1	-1	0	NA

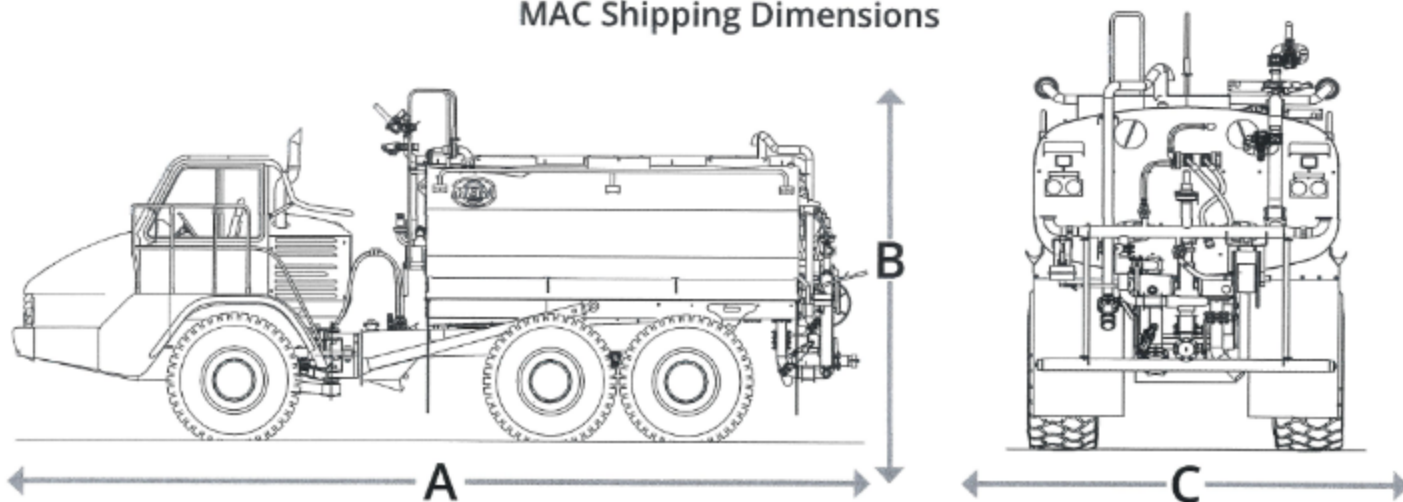
power curve

**total fuel**

Delta TotalVol 11gal

notes

MAC Shipping Dimensions



Drawings do not represent all tank models.

		MAC/MAT5 CAT725 ADT 18,925 Liters/ 5,000 gallons <i>SWB-Standard Wheel Base</i>		MAC/MAT5 CAT725 ADT 18,925 Liters/ 5,000 gallons <i>LWB-Long Wheel Base</i>	
A	OVERALL LENGTH	10287 mm	405 in	11871mm	467 in
B	OVERALL HEIGHT	4039 mm	159 in	3957 mm	156 in
C	OVERALL WIDTH	2845 mm	112 in	2804 mm	110 in
	TANK WEIGHT	22984 kg	50670 lbs	24630 kg	54300 lbs
		MAC/MAT6 CAT730 ADT 22,710 Liters/ 6,000 gallons <i>SWB-Standard Wheel Base</i>		MAC/MAT6 CAT730 ADT 22,710 Liters/ 6,000 gallons <i>LWB-Long Wheel Base</i>	
A	OVERALL LENGTH	10922 mm	430 in	11887 mm	468 in
B	OVERALL HEIGHT	4496 mm	177 in	4191 mm	165 in
C	OVERALL WIDTH	2845 mm	112 in	2845 mm	112 in
	TANK WEIGHT	24925 kg	54950 lbs	26463 kg	58342 3 lbs
		MAC/MAT7 CAT735 ADT 26,495 Liters/ 7,000 gallons <i>SWB-Standard Wheel Base</i>		MAC8 CAT735 ADT 30,280 Liters/ 8,000 gallons <i>LWB-Long Wheel Base</i>	
A	OVERALL LENGTH	11657 mm	459 in	12929 mm	509 in
B	OVERALL HEIGHT	4394 mm	173 in	4140 mm	163 in
C	OVERALL WIDTH	3353 mm	132 in	3429 mm	135 in
	TANK WEIGHT	35153 kg	77500 lbs	37458 kg	82581 lbs
		MAC8 CAT70 ADT 30,280 Liters/ 8,000 gallons <i>SWB-Standard Wheel Base</i>		MAC9 CAT740 ADT 34,065 Liters/ 9,000 gallons <i>LWB-Long Wheel Base</i>	
A	OVERALL LENGTH	11709 mm	461 in	13259 mm	522 in
B	OVERALL HEIGHT	4674 mm	184 in	4267 mm	168 in
C	OVERALL WIDTH	3429 mm	135 in	3429 mm	135 in
	TANK WEIGHT	37376 kg	82400 lbs	39644 kg	87400 lbs
		MAC/MAT9 CAT745C ADT 34,065 Liters/ 9,000 gallons <i>SWB-Standard Wheel Base</i>		MAC/MAT9 CAT745C ADT 34,065 Liters/ 9,000 gallons <i>LWB-Long Wheel Base</i>	
A	OVERALL LENGTH	12268 mm	483 in	Under Development	
B	OVERALL HEIGHT	4757 mm	187 in		
C	OVERALL WIDTH	3429 mm	135 in		
	TANK WEIGHT	38601 kg	85100 lbs		

