



Committee D-2 ON PETROLEUM PRODUCTS AND LUBRICANTS

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November 21, 2000

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Unconfirmed Minutes of the ASTM Mack Surveillance Panel

**Held in Richmond, Virginia
On September 7, 2000**

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1. Call to Order

1.1 An agenda is shown as Attachment 1.

2. Membership Changes

2.1 There were no changes in membership.

3. Minutes from the June 26, 2000 Meeting

3.1 The minutes from the June 26, 2000 meeting were approved with no corrections.

4. Scope and Objectives

4.1 There were no revisions to the Scope and Objectives.

5. TMC Report

5.1 Jeff Clark presented the TMC report. Hard copies of the report can be obtained by contacting Jeff Clark.

5.2 T8/T8E Referencing

5.2.1 Jeff Clark indicated only 3 T8 reference tests were completed (total calibrated stands: 6). All three tests were at one lab and all were accepted. There were no alarms for T8/T8E tests.

5.3. T9 Referencing

5.3.1 No T9 reference tests were completed (total calibrated stands: 5). The most recent T9 reference test resulted in an Industry Alarm for severe delta Pb. Jeff noted there is no indication whether this is a trend because only one test is involved.

5.4 Liner Measurement Round Robin

5.4.1 At the time of the meeting the liners were being measured by the second lab. Jeff indicated he would like to provide calibration status to the labs by the end of October.

6. Fuel Task Force

6.1 Jeff Clark presented an update of the Fuel Task Force.

6.2 The task force held a conference call on June 23 to determine the data that would be required for a fuel change. The options include 1) introducing a new fuel for the T8 and T9 tests 2) not introducing a new fuel for the T8 and T9 tests 3) whether to use RD9 or PC9 fuel if a new fuel is chosen. Jeff noted that the TMC will require five runs on calibrated stands for each test type.

6.3 Bob Campbell asked if calibration status would be granted if the results from tests run with new fuel meet the current acceptance limits. Jeff Clark indicated that the TMC cannot grant calibration without having a body of data to compare against. Jeff also noted that the results could be used to extend the stand calibration period to help ease the burden of the additional runs.

6.4 Greg Shank noted that the surveillance panel needs to choose between RD9 and PC9 fuel. Greg also opined that the surveillance panel should probably choose the PC 9 fuel to address the original goals of reducing tankage, etc.

6.5 Don Burnett asked if the five tests would be included in the reference test database. Jeff Clark indicated that if the five tests were completed within a reasonable time frame they

would count as calibration tests assuming these tests did not show significant differences in results.

6.6 Bob Campbell suggested the Fuels Task Force work up economics and make recommendations back to the surveillance panel. Jeff Clark indicated he would address the economics within the Task Force.

6.7 Don Burnett indicated that Chevron/Philips would donate the fuel for the five tests.

7. CPD Report

7.1 Gary Tietze presented the CPD report that is shown as Attachment 2.

7.2 Gary noted that there were approximately 1100 T9 and T10 exhaust valves: approximately 500 were at TEI and 600 were at TRW that had not been finish machined.

7.3 Gary noted that the original seven EGR systems had been completed. Bob Campbell asked if there were any plans to make more and keep an inventory of spare parts. Gary indicated TEI plans to inventory individual parts. TEI also plans to offer a complete T10 kit eventually.

7.4 Ken Goshorn indicated that Mack had used parts but no more new parts to assemble venturis. Ken also noted that engines can be ordered from Mack but will not include EGR systems. EGR systems will come from TEI.

8. Rotational Viscosity Task Force

8.1 Herman George was not present to present a report. Greg Shank noted that if the work of the Rotational Viscosity Task Force does not move forward kinematic viscosity measurements will be used in the T10 test.

8.2 Jim Collum opined that if we don't have a rotational viscosity measurement for PC 9, the Viscosity Measurement Task Force will have to be reconvened to deal with the 9 to 10% soot for the M11 EGR test. Charlie Passut noted that the Rotational Viscosity Task Force is not working with 9% soot oils.

8.3 Steve Kennedy asked what the targeted soot normalization level for viscosity increase is for PC9. Greg Shank replied that viscosity increase will be normalized to 4.8% for PC9.

8.4 Don Marn presented an update of the efforts of the Rotational Viscosity Task Force based on a conversation with Herman George. The second round robin data should be available by the end of September. Jim Wells passed how the work of the Rotational Viscosity Task Force ties into the work of Chris May's group. Chris May's group is focusing on low temperature measurements while Herman George's group is working on high temperature measurements. The next meeting of the Rotational Viscosity Task Force is scheduled for December 3 at the semi-annual D-2 meeting in Nashville.

9. T10 Items

9.1 Jim Collum noted 3 lbs was added to the oil charge to allow tests to be completed with oil remaining in the oil weigh bucket. To compensate the pickup was moved up 0.25 in. on the oil pan.

9.2 Gary Tietze provided prices for fabricating miscellaneous T10 items:

Stainless steel venturi	\$4700
Stainless steel intake manifold	\$5800
Ceramic coated intake manifold	\$600
Anodized intake manifold	\$200

10. Old Business

10.1 No old business was discussed.

11. New Business

11.1 No new business was discussed.

12. Next Meeting

12.1 Charlie Passut indicated the next meeting would be held on December 4 in Nashville, Tennessee.

13. Adjournment

Attachment 1

Mack Test Surveillance Panel

MEETING NOTICE**

Date: Thursday Sept. 7, and Friday Sept 8, 2000

Place: Ethyl Research Lab, Richmond, VA.

**Time: Thursday 1:30 - 5:00 PM, (M-11 SP 10:00 AM – 1:30 PM)
Friday 8:00 – 10:00 AM if needed**

Lunch Provided on Thursday between Cummins M-11 and Mack Meetings

AGENDA

- | | |
|--|----------------------|
| 1) Membership | (M. Cooper) |
| 2) Approval of Minutes - June 26,2000 | (M. Cooper) |
| 3) Scope and Objectives | (C. Passut) |
| 4) TMC Report | (Jeff Clark) |
| 5) Fuels Task Force | |
| 6) CPD Report | (Gary Tietze) |
| 7) Rotational Viscosity Task Force | (H. George) |
| 8) Mack T-10 Items | |
| 9) Old Business | |
| 10) New Business | |
| 11) Next Meeting | (C. Passut) |

For additions to the agenda contact:

Charles Passut
Chairman
804-788-6372

Wim van Dam
Secretary
510-242-1404

****NOTE---** This is the beginning of NASCAR race weekend in Richmond. We have set aside a block of rooms at the OMNI Hotel in Richmond. You can reserve rooms for Sept. 6, 7 and 8th but these reservations must be made before August 15th to guarantee availability. Please call Adrienne White at 804-788-5029 to make hotel and race ticket reservations. Race tickets and dinner will be provided for the Thursday night NASCAR Truck Race.

Attachment 2

Mack T-8 Test CPD Report

Mack T-8 Critical Hardware					
Part	Qty Shipped (6 mos.)	Qty On Hand	Qty Back Order	Qty Rejects (6 mos.)	Est Inventory Life
Remanufactured Injection Pumps 313GC5212P12X	5	4	1	0	6 months
Cylinder Heads	2	6	0	0	12 months
Cylinder Rebuild Kits 215SB217C/D	72	30	0	0	5 months

Mack T-8 Non-Critical Hardware	
Part	Comments
215SB217D	Now in inventory

Industry obsolescence projection: none anticipated.
 Redistribution: not presently required.
 Industry projected volume requirements surveys: ongoing.

Report To
Mack Surveillance Panel

by

TEST ENGINEERING, INC.
Mack T-8
Central Parts Distributor (CPD)

Sept. 7, 2000
Gary D. Tietze

Report To
Mack Surveillance Panel

by

TEST ENGINEERING, INC.
Mack T-9/T-10
Central Parts Distributor (CPD)

Sept. 7, 2000
Gary D. Tietze

Mack T-9/T-10 Test CPD Report

Critical Hardware					
Part	Qty Shipped (Total)	Qty On Hand	Qty Back Order	Qty Rejects (Total)	Est Inventory Life
Cylinder Rebuild Kits					
Controlled Batch #3	1266	3	0	27	depleted 10 months
Batch #4	108	980	208		
Conn. Rod Bearings					
Controlled Batch #4	288	504	0	12	5 months
Main Bearings					
Controlled Batch#2	74	3	0	17	1months
Batch #3	23	111	0	1	6 months

Mack T-10 EGR Hardware	
Part	Comments
T-10 engine received at TEI week of June 5.	Continuing EGR component modification

Miscellaneous: hold back 4 each T-9 cylinder kits and bearing sets for future shelf-life determination.

Mack T-10 Test CPD Report

Action Items

- ◆ Work with Mack Trucks on providing critical engine parts.
- ◆ Continue EGR modifications.

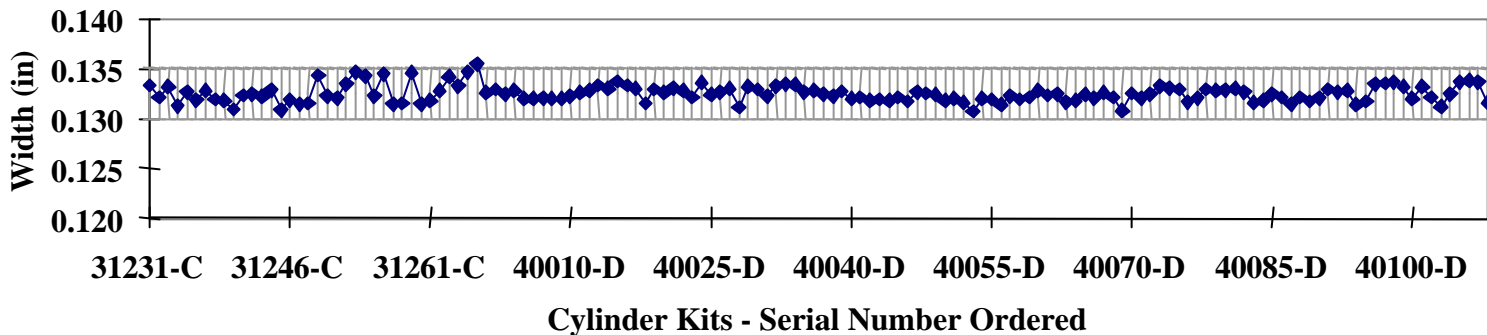


Mack T9/10 Cylinder Kit Surface Analyzer Measurements

All Kits Measured to Date - Serial Nos. MK9/10-31231-C to MK9/10-40108-D

August 22, 2000

Total Oil Ring Width



Band is Mean \pm 3 SD

Measurements are avg of 3 locations

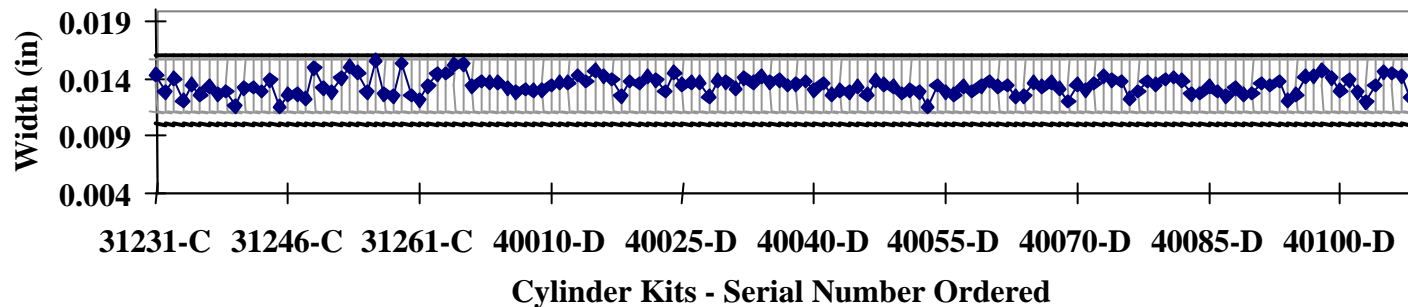


Mack T9/10 Cylinder Kit Surface Analyzer Measurements

All Kits Measured to Date - Serial Nos. MK9/10-31231-C to MK9/10-40108-D

August 22, 2000

Top Oil Ring Rail Width



Band is Mean \pm 3 SD

Measurements are avg of 3 locations

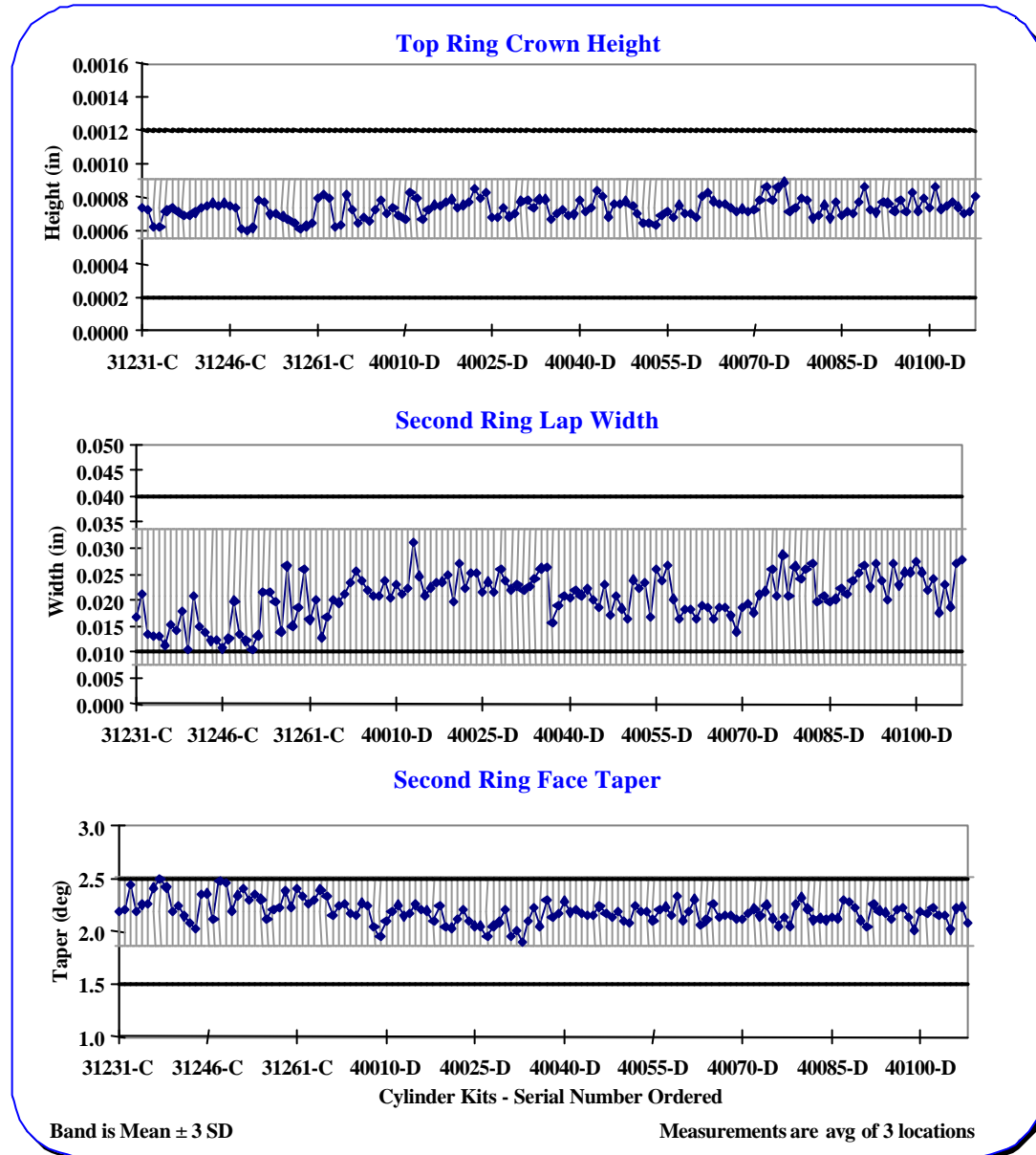
Mack T9/10 Cylinder Kit Surface Analyzer Measurements

All Kits Measured to Date - Serial Nos. MK9/10-31231-C to MK9/10-40108-D

August 22, 2000



TEST ENGINEERING, INC.





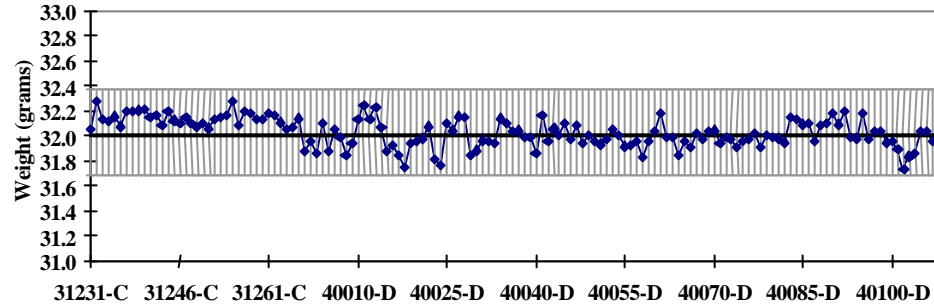
TEST ENGINEERING, INC.

Mack T9/10 Cylinder Kit Manual Measurements

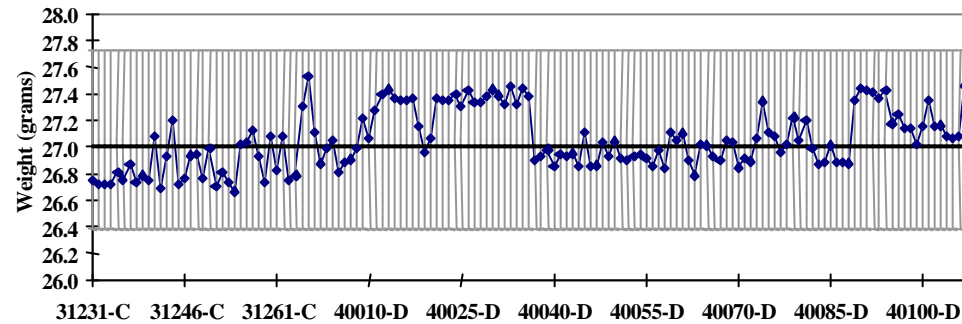
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August 22, 2000

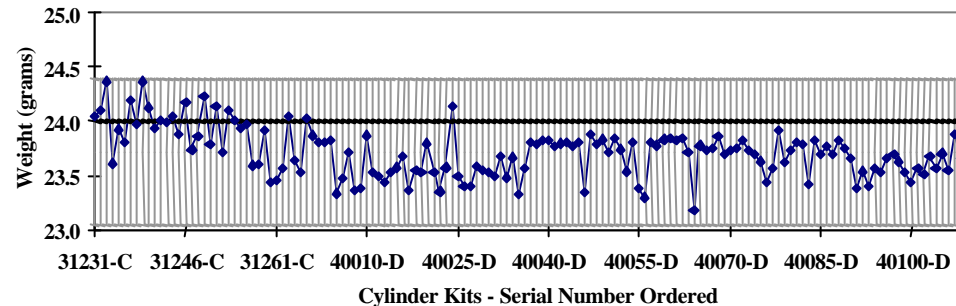
Top Ring Weight



Second Ring Weight



Oil Ring Weight



Band is Mean \pm 3 SD

Cylinder Kits - Serial Number Ordered



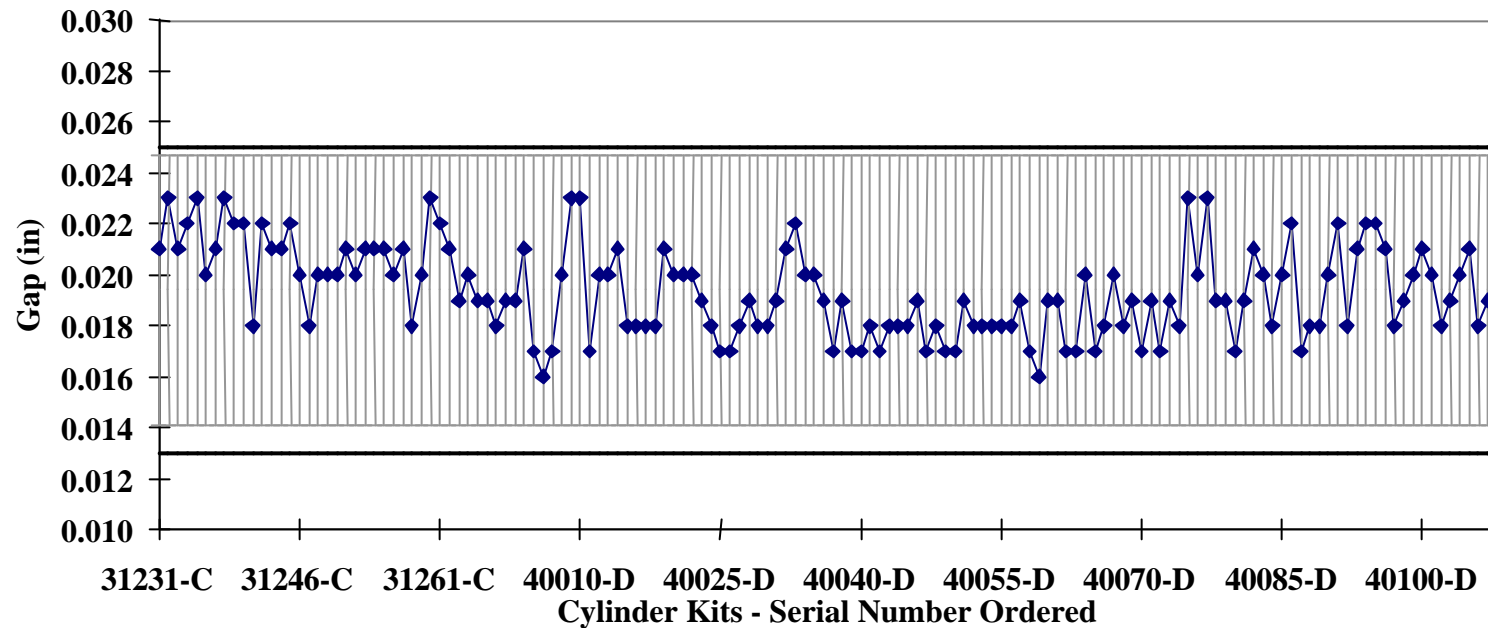
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Mack T9/10 Cylinder Kit Manual Measurements

All Kits Measured to Date - Serial Nos. MK9/10-31231-C to MK9/10-40108-D

August 22, 2000

Second Ring Gap





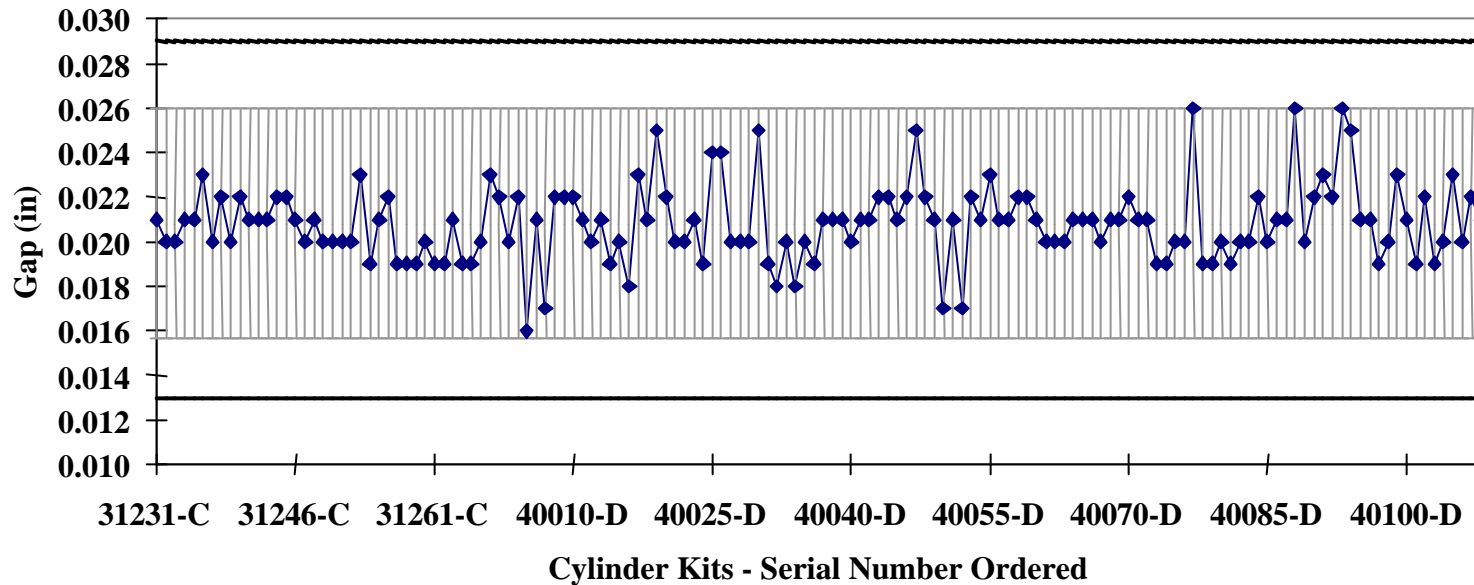
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Mack T9/10 Cylinder Kit Manual Measurements

All Kits Measured to Date - Serial Nos. MK9/10-31231-C to MK9/10-40108-D

August 22, 2000

Oil Ring Gap





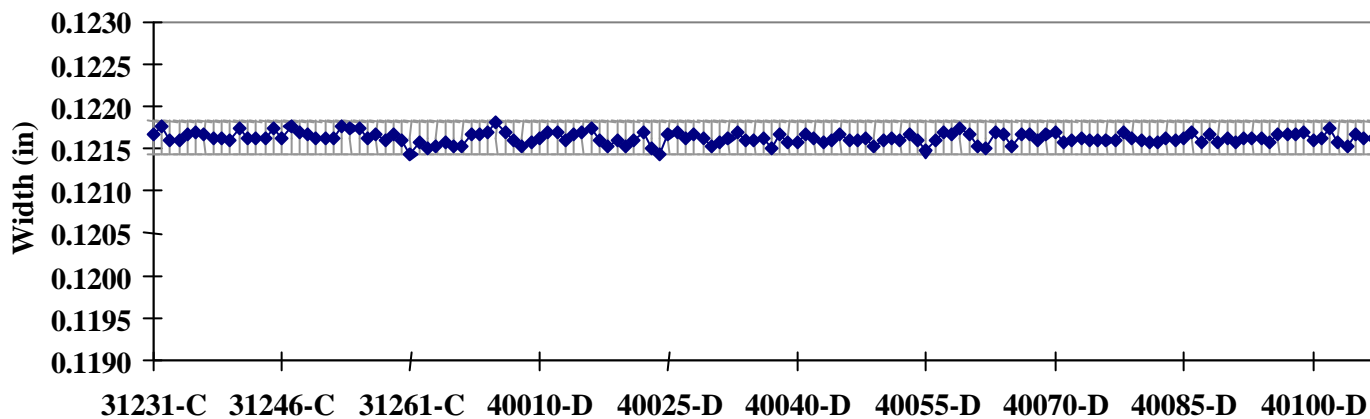
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Mack T9/10 Cylinder Kit Manual Measurements

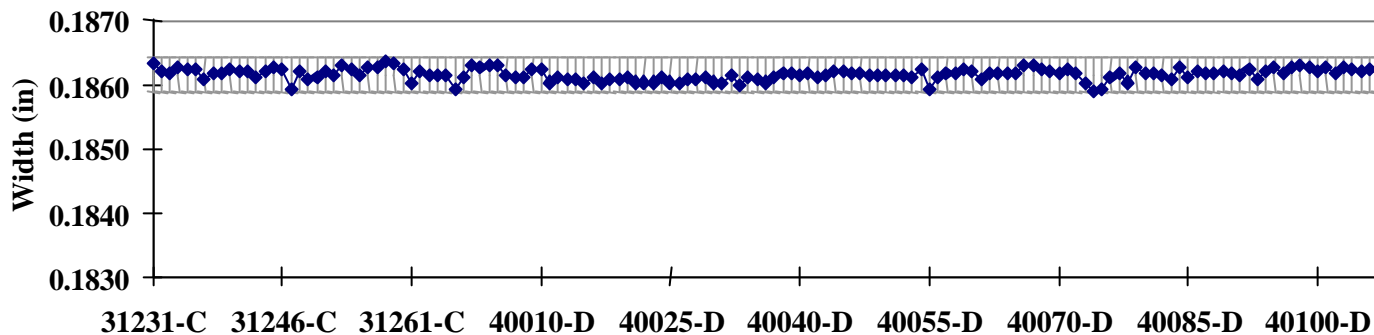
All Kits Measured to Date - Serial Nos. MK9/10-31231-C to MK9/10-40108-D

August 22, 2000

Top Ring Width *



Total Oil Ring Width *



Cylinder Kits - Serial Number Ordered

Band is Mean \pm 3 SD

* No spec given

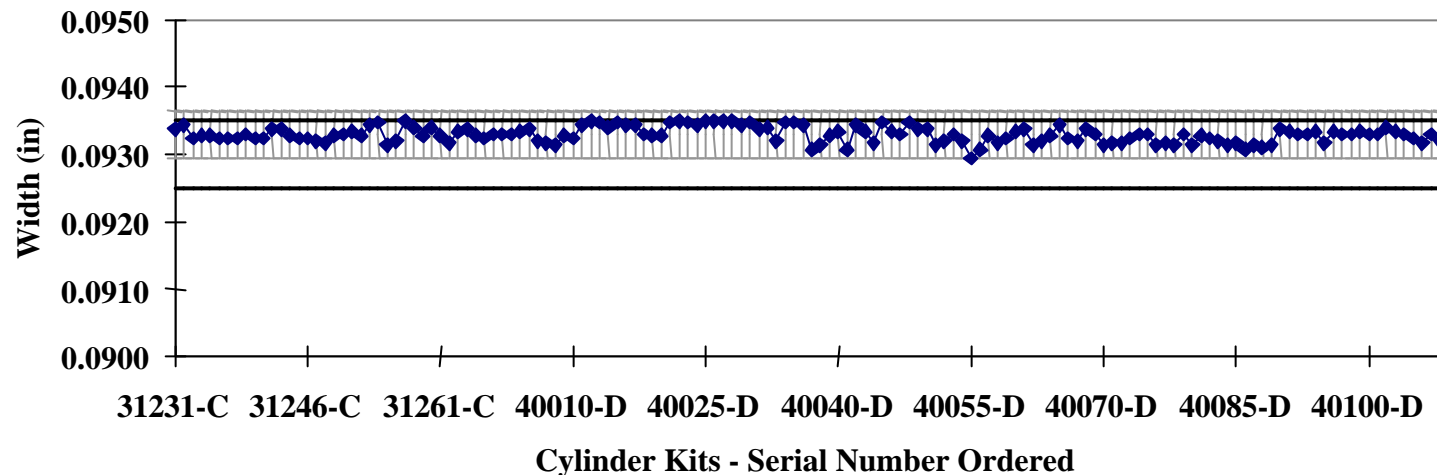
Widths are avg of 3 locations

Mack T9/10 Cylinder Kit Manual Measurements

All Kits Measured to Date - Serial Nos. MK9/10-31231-C to MK9/10-40108-D

August 22, 2000

Second Ring Width



Band is Mean \pm 3 SD

Widths are avg of 3 locations

Mack T9/10 Cylinder Kit Manual Measurements

All Kits Measured to Date - Serial Nos. MK9/10-31231-C to MK9/10-40108-D

August 22, 2000

Top Ring Height

