

FAX TRANSMISSION

To: Tom Harada
Maintenance Manager
Equipment Division #2
Kamigo Engine Plant

From: Bob Sanders

Date: Saturday, June 1, 1989

Re: Initial Trip Report (Fax 1)

Mr. Harada,

Thank you for the opportunity to visit the TMM Kentucky Engine Plant and to observe the start-up of operations. I have been able to see first hand now the end result of all the activities that we have been working on the past few months.

As you requested I am sending you my initial report at the end of week one based upon my observations into the current state. Here is what I have been able to do in the five days that I have been here so far.

First I have met all the local staff and in particular got to know the local maintenance manager Mr. Prewitt. Also I have met with the Engineering manager Mr. Johnson, and the Production Manager Mr. Ripberger. I also have spent time with the maintenance foreman Mr. Higgins, and all three shifts of maintenance group leaders, all the maintenance team leaders and many of the maintenance skilled trades people. Everyone strikes me as a very capable and all are working hard to aid the start up of engine operations which commenced in April of this year.

Second I have observed the shop floor in rigorous fashion and looked at some of the maintenance activities that are under way here in the plant. I have inspected the equipment we shipped over, and observed the status of installation. I have watched the production shifts and the communication between production and maintenance. Furthermore I have held many discussions with key personnel about the current state of operations and our need to improve.

Third I have tried to gather information from different parties about how well the start up is going and what they think of the current maintenance

organization. I have spent time on both shifts of production and all three shifts of maintenance in order to gather the broadest perspective possible.

As you have heard from other reports from Japanese coordinators on assignment here there are many problems during this start up. I am told that this is typical during any new facility start up. However I am most concerned about how we are supporting production. The maintenance actions here seem “scattered” compared to Kamigo plant in Japan. There is frankly quite a lot of criticism being leveled at the quality of the effort by the local maintenance team here. On ten different occasions I’ve been stopped this week by Production Group Leaders (both Japanese and American) and informed that maintenance is just not fixing things fast enough. The fear I have is that as production volume grows the next several months that maintenance will become the bottleneck of the operation and hinder our ability to ship on time to the vehicle plant.

I suspect that there will be more complaints coming towards maintenance over the next several months unless the situation improves. In order to help the current situation and avoid problems in the future I will summarize below what I think needs to be done. I will call you on Monday to discuss these options and how you would like me to proceed during the rest of my stay.

#1 Communication

There is tremendous difficulty in communication on-site as I suspected. The Japanese coordinators in the office can speak English reasonably well and get their point across, but on the shop floor it is another matter. I spend half of my day getting flagged down by our maintenance trainers and asked to help translate with their maintenance group leader and team leader counterparts. Needless to say if we could just communicate better we could be a lot more effective here in troubleshooting, training, and improving.

There is one really good translator here, Mr. Ohkubo, but he is tied up in the office doing high priority translation for meetings and documents. There are three other translators, one male and two female that rotate between maintenance, production, and QC operations. There is no problem with the effort being put forth but the translators suffer from a lack of technical knowledge and struggle in many cases on the shop floor. For example words like “spindle head”, “proximity switch”, or “guide bush” that we take for granted are not understood by the translators. Furthermore the translator is

never right there when you need them at critical moments in maintenance due to the often sudden nature of our work.

I think there are several reasonable options here including hiring more translators, getting better quality translators, dedicating some to maintenance and investing more time in teaching English to the Japanese staff before they are sent over here for assignment. Instead of the current in-house training perhaps some type of Berlitz style immersion courses would work better for all in the long run.

#2 Spare Parts

It seems that a lot of downtime is caused by lack of spare parts in the maintenance store room. This aspect has probably been the most frustrating part of my trip. After all those long hours I spent collecting spare parts lists for each piece of machine and sending them over here with the rest of the equipment documentation we still do not have enough spare parts. When the maintenance skilled trades person goes to the store to get certain items the parts are not there in sufficient quantities. I have checked this with my own eyes and been astounded by what I saw! Either the parts have been stolen, or consumed, or we have vastly underestimated the quantity that would be required during start up. About half the time we go to get parts the exact item we are looking for is just not there. This sets off a frenzy of activity to find a substitute item in-house, get something from the vehicle plant's store room, or find a local item that we can use as a temporary countermeasure.

I strongly suggest that we consider a couple of different options. Since the vehicle plant started up first and has a bigger spare parts store room perhaps we should merge our operations with their store. The location is farther away (nearly one half mile) but with the greater number of parts there will logically be a higher chance of having the part in stock. Additionally while this item is being considered we should increase the purchase of spare parts and the levels that we plan on holding in-house. This is a no regrets move and if we fail to do it we will be wide open to criticism from Production.

#3 Trainers and Training

When I am not translating some side conversation about problems or trying to find missing spare parts I try to aid our Japanese trainers sent here while they conduct training for maintenance personnel here. As directed from the local management, the Japanese trainers are not allowed to make any repairs

on equipment here except in case of dire emergency. While I understand the intent of this policy the unintended effect is to reduce the daily output through the production line. I also fully understand the need to train the local staff on basic repairs in a structured fashion. However at some point I think we need to increase the number of trainers here on site (current number is six) to perhaps eight or ten. This increase will enable more rapid skill transfer and in times of crisis give us more hands available for emergency support as it occurs. I think this change will more than pay for itself in the long run.

#4 Equipment selection and documentation

Most of the 50 pieces of equipment (80%) here came over from Japan as you know. Since this equipment is unfamiliar to the local staff there is also the associated learning with the unfamiliar equipment. Since the current manufacturing lines here are just assembly conveyors and assembly equipment it should be relatively simple to maintain. However I think there are some real problems. Since the equipment is from Japan whenever there is a problem you can not simply just pick up a phone a call for help. I am told that the technical support capability for the Japanese equipment lags the technical support provided for the few U.S. machines that are in the engine assembly and test area. I get lots of questions from the local staff here about why we are sending over Japanese equipment to the U.S. and why aren't we using more local machines. I get lots of complaints from the U.S. maintenance people regarding the quality of the documentation coming from Japan. I think it is going to continue to be an ongoing problem and before the launch of the upcoming machining lines where more complexity is involved we should revisit the strategy of sourcing machines from Japan versus the U.S. I know this is not our decision and it lies in the hands of production and production engineering however we will suffer in maintenance if the staff can not maintain the uptime of the machine.

Summary

I hope this fax paints a good clear picture of the problems that we are up against. I have worked close to 70 hours this week and came in on Saturday to tie up some loose ends and write this report. I would like to have a phone conference call with you on Monday after you get into the office and discuss what to do next during my stay here.