

# **Maintenance Requirements For Large Fleets The Savings and the Pitfalls**

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Australian Post**

Presented to the

Institute of Road Transport Engineers of New Zealand

**SEVENTH INTERNATIONAL HEAVY VEHICLE SEMINAR**

**WELLINGTON**

**16 & 17 July 1998**

**IRTEZ SEMINAR - 1998**

**EXTENDING**

**SERVICE**

**INTERVALS**

**&**

**CLEAN FLEET**

# **IRTEZ SEMINAR - 1998**

**WHY DO MAINTENANCE ?**

**\$\$\$\$\$\$\$\$**

**& SAFETY (DUE CARE)  
& ENVIRONMENT  
& LEGAL REQUIREMENTS**

**WHY DO WE DO MAINTENANCE? - SIMPLE - IT IS OUR CHEAPEST OPTION TO PROVIDE EFFICIENT RELIABLE TRANSPORT.**

**AND, LETS BE REALISTIC - WE ARE NOT ALL GOOD BLOKES SO THERE ARE:**

**LEGAL REQUIREMENTS IE MACHINERY INSPECTIONS OR ROAD WORTHY INSPECTIONS OTHERWISE REGISTRATION IS WITH HELD.**

**DUE CARE AND OH&S REQUIRE THAT VEHICLES ARE MAINTAINED TO PROVIDE A SAFE WORK ENVIRONMENT FOR STAFF.**

**ENVIRONMENTAL REASONS. LIMITS ARE IMPOSED ON VEHICLE EMISSIONS AND NOW SOME GOVERNMENTS ARE IMPOSING FINES ON OPERATORS WHO EXCEED THE LIMITS.**

# **IRTEZ SEMINAR - 1998**

## **NO SECRETS - NO MAGIC FIRST PRINCIPLES OF MAINTENANCE**

- DO IT & DO IT PROPERLY**
- PLAN FOR IT, &**
- DON'T CUT THE MAINTENANCE BUDGET**
  - CUTTING THE BUDGET GENERALLY INCREASES  
TOTAL MAINTENANCE COSTS**
- GOOD MAINTENANCE**
  - REDUCES**
    - MAINTENANCE COSTS**
    - DOWNTIME**
    - FERRYING TIME**
    - FLEET SIZE**
  - IMPROVES RELIABILITY**
  - INCREASES PRODUCTIVITY**

**TO BE HONEST WITH YOU I FEEL THAT I AM HERE  
UNDER FALSE PRETENCES BECAUSE I LOOK TO NZ  
FOR INNOVATION AND NEW IDEAS , AND ALSO  
BECAUSE THERE ARE NO MAGIC POTIONS, NO  
SECRETS TO GOOD MAINTENANCE.**

**MAINTENANCE HAS TO BE DONE AND DONE  
PROPERLY TO BE EFFECTIVE. - THERE ARE NO  
OPTIONS-**

**MAINTENANCE MUST BE PLANNED TO SUIT THE  
EQUIPMENT AND OPERATING CONDITIONS**

**NEVER CUT THE MAINTENANCE BUDGET. APPLY  
EFFICIENT MAINTENANCE PRACTICES AND LET GOOD  
MAINTENANCE REDUCE TOTAL OPERATING COSTS.**

**YOU DON'T HAVE TO BE SOPHISTICATED TO PROVIDE  
GOOD MAINTENANCE. ALL TOO OFTEN WE TRY TO BE  
TOO FANCY WHEN WE SHOULD CONCENTRATE ON  
THE BASICS.**

# **IRTEENZ SEMINAR - 1998**

## **THE HIDDEN COSTS OF MAINTENANCE**

- **THE LARGE AND HIDDEN COSTS OF TRANSPORT MAINTENANCE ARE:-**
  - **DOWNTIME**
  - **FERRYING TIME**
  - **RECOVERY**
  - **SPARE VEHICLES**
  - **LOSS OF REVENUE**
- ***MAKE SURE THAT YOUR MANAGEMENT IS AWARE OF ALL COSTS AND NOT JUST THE EASILY MEASURED AND MOST VISIBLE COSTS (ACCOUNTANT'S COSTS)***

TOO MANY TRANSPORT AND MANAGEMENT PEOPLE DON'T UNDERSTAND MAINTENANCE AND HAVE NO UNDERSTANDING OF THE ENORMOUS COSTS THAT RESULT FROM POOR MAINTENANCE PRACTICES.

VERY HIGH COSTS ARE ACCUMULATED BY  
**DOWNTIME**

**FERRYING TIME AND EFFORT**

**RECOVERY COSTS OF BREAKDOWN, VEHICLES AND LOADS**

**LOSS OF REVENUE DUE TO POOR PERFORMANCE OF VEHICLES**

**AND THE NEED FOR EXTRA VEHICLES AND STAFF TO COVER FOR THESE LOSSES**

WHY - BECAUSE THEY ARE **HIDDEN COSTS** AND DIFFICULT TO MEASURE AND DON'T SHOW UP READILY ON A BALANCE SHEET.

BUT THESE HIDDEN COST AFFECT PROFIT AND VIABILITY. IF YOU GET NOTHING ELSE FROM THIS SEMINAR, CONCENTRATE ON THESE FACTORS

**THESE ARE THE BASICS SO GET THEM RIGHT**

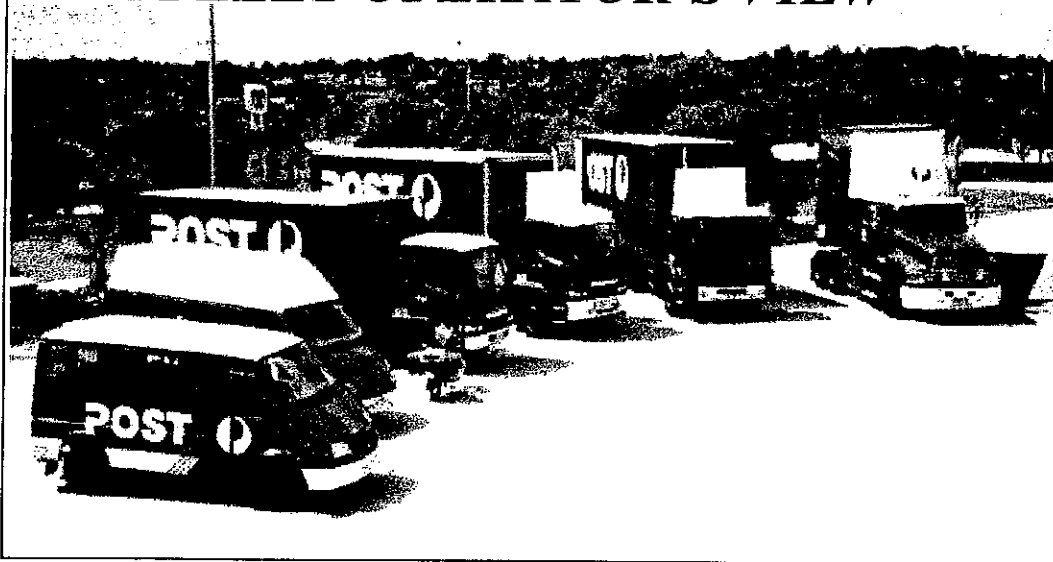
**DO IT & DO IT PROPERLY**

**PLAN FOR IT**

**LOOK FOR & MINIMISE THE HIDDEN COSTS, and**

**KISS - Keep It Simple Stupid**

**IRTEZ SEMINAR - 1998**  
***EXTENDING SERVICE INTERVALS***  
***A FLEET OPERATOR'S VIEW***



**AUSTRALIA POST'S PRINCIPLES ARE:**

**PROVIDE A SAFE WORK ENVIRONMENT**  
**PROVIDE RELIABLE VEHICLES**  
**MINIMISE TOTAL OPERATING COSTS, &**  
**OPERATE A CLEAN FLEET.**

**TO DO THIS WE:**

**PLAN MAINTENANCE AND KEEP IT SIMPLE SO**  
**THAT IT CAN BE MANAGED EASILY IN THE FIELD.**

**AIM FOR NO MAINTENANCE OR REPAIRS**  
**BETWEEN PROGRAMMED SERVICES**

**THESE ACTIONS MAY TEND TO OVER SERVICING BUT THE**  
**GAINS ARE:**

**REDUCED DOWNTIME,**  
**REDUCED FERRYING TIME,**  
**REDUCED FLEET SIZE,**  
**GOOD PRODUCTIVITY**

# IRTEZ SEMINAR - 1998

## DOUBLING SERVICE INTERVALS

VEHICLE TYPE	No. OF VEHICLES	SERVICES	COST \$	DOWNTIME HOURS	FILTERS	OIL (LITRES)
MOTORCYCLES	6800	81600	\$2,500,000	244800	52000	82000
CARS	1000	2750	\$495,000	11000	2600	16500
VANS	1600	3990	\$1,280,000	24000	6000	24000
TRUCKS	760	3550	\$1,420,000	21500	10000	78100
LINEHAUL	50	700	\$490,000	5600	3000	24500
OTHERS	220	320	\$96,000	2000	300	1920
TOTAL AS PER POLICY	10430	92910	\$6,281,000	308900	73900	227020
<b>DOUBLE INTERVAL</b>	10430	46455	<b>\$3,140,500</b>	<b>154450</b>	<b>36950</b>	<b>113510</b>

IF WE SIMPLY **DOUBLE THE SERVICE INTERVAL** AUSTRALIA POST HAS THE POTENTIAL TO MAKE SUBSTANTIAL SAVINGS.

THIS IS A GOOD AIM, BUT IN PRACTICE NOT A REALITY. HOWEVER, WE CAN MAKE SOME SUBSTANTIAL GAINS.

### TALK TO SLIDE

OUR FLEET CONSISTS OF 5 GROUPS.

MOTOR CYCLES

CARS

VANS

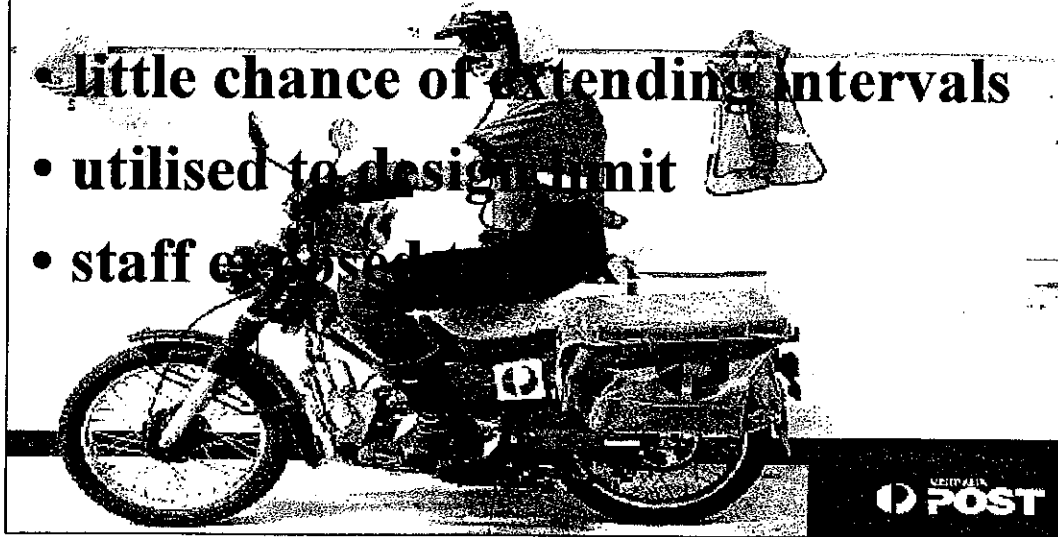
TRUCKS, &

ARTICULATED VEHICLES

## IRTEENZ SEMINAR - 1998

### THINK SAFETY

- little chance of extending intervals
- utilised to design limit
- staff exposed to risk



**6,800 motor cycles travel 48 m kms**

Used for delivery of mail to households,  
businesses in suburban and country areas

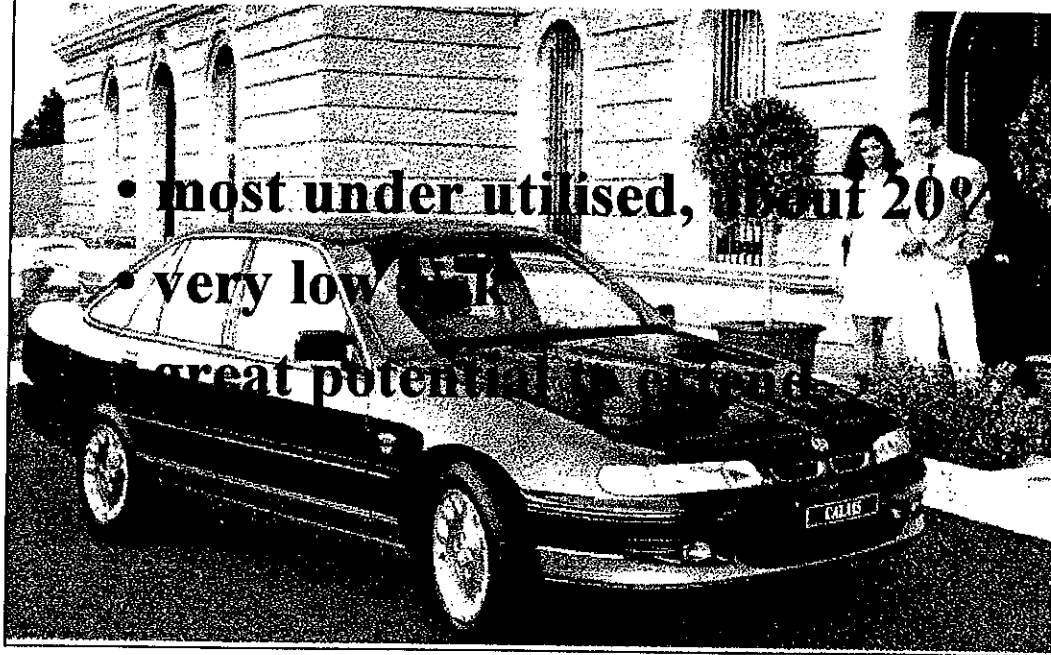
- LITTLE CHANCE OF EXTENDING INTERVALS,
- UTILISED TO THE DESIGN LIMIT
- STAFF EXPOSED TO RISK

**HAVING SAID THAT, WE HAVE JUST REMODELLED THE  
MOTOR CYCLE POLICY THAT PROVIDES FOR A MINOR  
SERVICE EVERY MONTH, WITH A MAJOR SERVICE EVERY  
3000KMS.**

THIS HAS SAVED MONEY,  
IMPROVED THE SAFETY OF THE MOTORCYCLE  
REDUCED CALL-OUTS



## **IRTENZ SEMINAR - 1998**



**1,000 cars travel 29m kms**

Used for the transport staff, half kms for business, half kms for private.

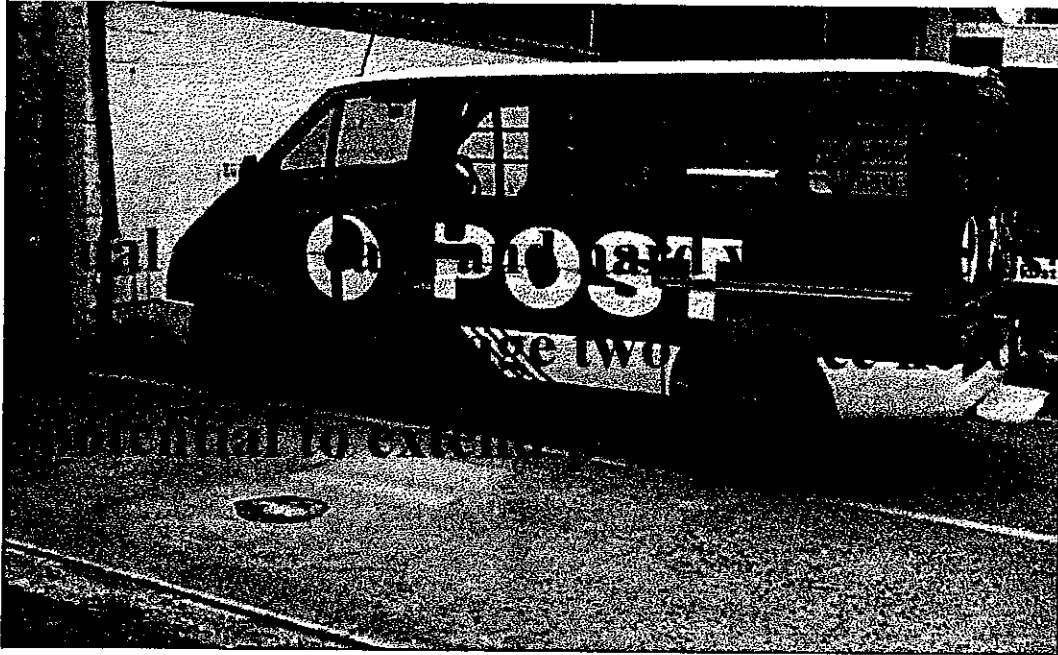
• MOST UNDER UTILISED VEHICLE IN FLEET, 20% OF DESIGN CAPACITY.

• VERY LOW RISK

• GREAT POTENTIAL TO EXTEND

THIS IS A TARGET BUT WE WANT TO SORT OUT THE MONEY EARNING VEHICLES FIRST.

## IRTENZ SEMINAR - 1998

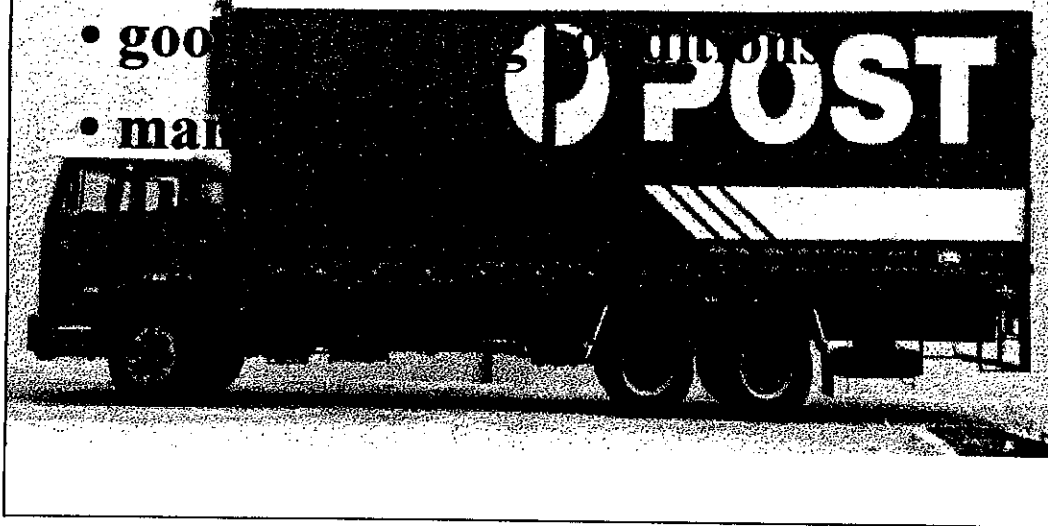


**1600 vans travel 42m kms**

Used for pick-up & delivery of mail and parcels & SPB clearance.

- **DUAL ROLE; EASY & HARD WORK CYCLES**
- **DIFFICULT TO MANAGE TWO SERVICE NEEDS**
- **POTENTIAL TO EXTEND SERVICE INTERVAL BY 50%.**

## IRTENZ SEMINAR - 1998

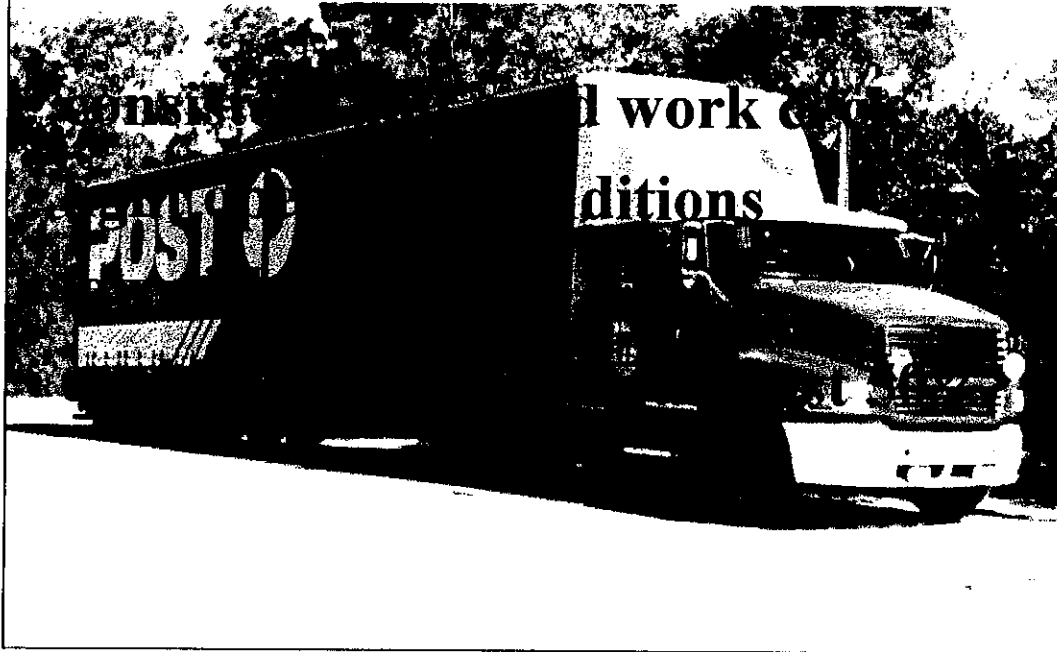


**800 trucks travel 36m kms**

Used for bulk shipments of mail between customers and facilities in both metropolitan and country environment.

- GOOD OPERATING CONDITIONS
- VEHICLE NOT STRESSED
- HOWEVER, MANY DRIVERS CAN IMPOSE COMPLICATIONS, CLUTCH & BRAKE ADJUSTMENTS, ETC
- COULD EXTEND WITH MINIMAL RISK

## **IRTEENZ SEMINAR - 1998**



**51 vehicles travel 14m kms**

Used primarily on long distance linehaul and some metropolitan bulk shipments.

- **CONSISTENT AND GOOD WORK CYCLE**
- **LIGHT OPERATING CONDITIONS**
- **LOW RISK**
- **COULD BE EXTENDED BY AT LEAST 50%.**

**C/W MOTOR CYCLE**

**IRTEZ SEMINAR - 1998**  
**I WANT THESE SAVINGS**  
**\$1,400,000**  
**155,000 HOURS**  
**39,000 FILTERS**  
**114,000 LITRES OF OIL**

I WANT SOME OF THESE SAVINGS

BUT ONE MUST UNDERSTAND THE  
LIMITATIONS, SET **REALISTIC GOALS** SO  
THAT EFFORT IS NOT WASTED.

MAKE SURE THAT **WARRANTY IS  
OPTIMISED**, HOWEVER, TRY TO HAVE THE  
**WARRANTY DONE AT PROGRAMMED  
SERVICES**. ALSO, TRY AND HAVE YOUR  
OWN WORKSHOPS RECOGNISED AS  
**WARRANTY AGENTS** - IT SAVES A LOT OF  
TIME AND MONEY AND KEEPS THE  
VEHICLES IN YOUR CONTROL & REDUCES  
FERRYING TIME & COSTS.

# **IRTEZ SEMINAR - 1998**

**P**artnerships

**A**wareness of risks

**C**orrect specification

**K**nowledge & balance

**A**ccurate records

**G**ood safety checks

**E**xperience

HOW CAN WE ACHIEVE EXTENDED SERVICES?

THIS CONCEPT WAS DEVELOPED BY AN ASSEMBLAGE OF SUPPLIERS, OPERATORS, ENGINEERS AND MAINTENANCE EXPERTS.

**P** = A PARTNERSHIP BETWEEN THE USER, SUPPLIER, MANUFACTURER AND SERVICE PROVIDERS.

**A** = AN AWARENESS OF ALL ASSOCIATED RISKS, EQUIPMENT FAILURE, RAPID WEAR, SAFETY ISSUES, REDUCED RESALE, POOR PERFORMANCE, ETC.

**C** = CORRECT SPECIFICATION - NOT ONLY THE EQUIPMENT BUT ALSO THE LUBRICANTS, OILS, MAINTENANCE PROCEDURES.

**K** = THE CORRECT AND SUFFICIENT KNOWLEDGE AND BALANCE OF THE COSTS AND RISKS. THERE MAY BE GAINS BUT THERE COULD BE LOSSES

**A** = ACCURATE RECORDS. ACCUMULATING ACCURATE & RELIABLE DATA SO THAT PLUSES & MINUSES CAN BE MEASURED & CHANGES CAN BE MEASURED.

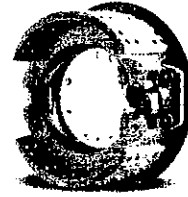
**G** = GOOD SAFETY CHECKS; PROCEDURES SHOULD BE DEVELOPED TO ENSURE THAT THE SAFETY OF THE EQUIPMENT IS MAINTAINED DURING MAINTENANCE INTERVALS

**E** = EXPERIENCE; TAKE NOTICE OF YOUR OWN AND OTHERS EXPERIENCE AND CONSIDER ALL ADVICE. DEVELOP A NETWORK.

## **IRTEENZ SEMINAR - 1998**



**Disc Brake**

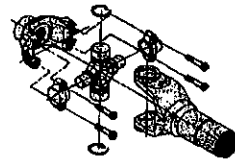


**Q Plus™ Brake**

### **Extended Life Product**



**Unitised Hubs**



**RPL Driveline**

**THERE ARE PRODUCTS AVAILABLE TO ASSIST AN OPERATOR EXTEND SERVICE INTERVALS.**

**THERE ARE SEALED BEARINGS, SEALED HUBS, QUICK RELEASE BRAKE KITS, DISC BRAKES, AUTOMATIC GREASING UNITS AND MORE, MUCH MORE.**

## **IRTEZ SEMINAR - 1998**

# **Synthetic lubricants**

- resist breakdown longer
- keep parts cleaner
- allow for safe, extended drain intervals
- easier low temperature starting
- provide quicker flow to protect wearing parts

### **SYNTHETIC OILS AND LUBRICANTS**

**THESE PRODUCTS RESIST BREAKDOWN LONGER, KEEP PARTS CLEANER & ALLOW FOR SAFE, EXTENDED DRAIN PERIODS.**

#### **THEY PROVIDE FOR:**

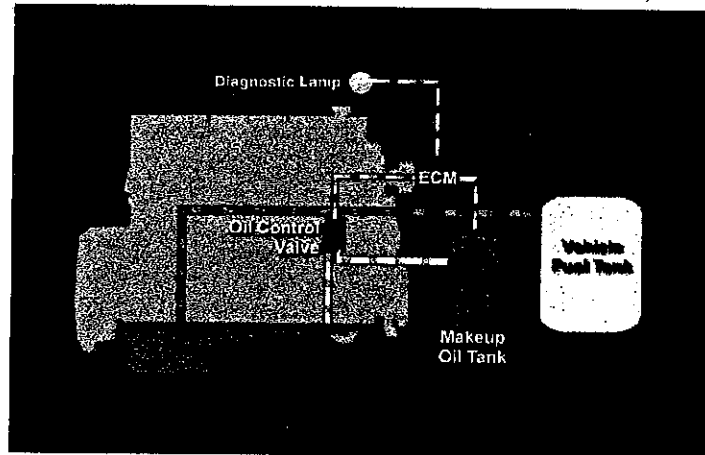
- **EASIER LOW TEMPERATURE STARTING**
- **QUICKER FLOW AROUND COMPONENTS AT START-UP FOR REDUCED WEAR.**

**HOWEVER, THEY ARE EXPENSIVE AND NEED TO USED PROPERLY BEFORE BENEFITS ARE GAINED. EG THERE MAY BE NO BENEFIT IF VEHICLES HAVE TO RETURN TO THE WORKSHOP TO BE GREASED**



# IRTEZ SEMINAR - 1998

## **CENTINEL - Cummins Advanced Engine Oil Management System (A CONTINUOUS OIL REPLACEMENT SYSTEM)**



- **Oil Change Intervals at 350,000 kms**
- **Oil Filter Change Intervals at 70,000 kms**

### **Instructor's Notes:**

- CENTINEL is an on-board continuous oil replacement system designed as an aftermarket retrofit product for L10, M11 and N14 CELECT engines as well as high horsepower K19, KV38 and KV50 mechanical engines.
- CENTINEL utilises proprietary electronic controls technology to constantly monitor the engine and synchronise system operation to ensure a balance between oil use and engine protection.

## **IRTENZ SEMINAR - 1998**



**THE ACTROS.**

**THIS IS TAKING THE TECHNOLOGY  
FROM COMPONENTS TO A WHOLE  
TRUCK.**

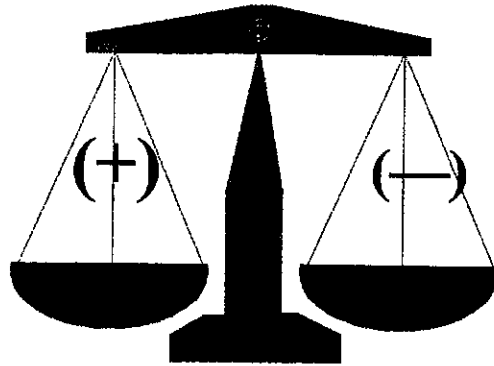
**SELF ANALYSIS CONTINUALLY UPDATES  
THE SERVICE INTERVAL.**

**THIS PRODUCT STILL NEEDS TO BE  
MANAGED.**

**YET TO EXPERIENCE THIS VEHICLE AND  
ITS DEMANDS ON MAINTENANCE  
PROGRAMMING.**

## **IRTEZ SEMINAR - 1998**

**Manage the Risk**



**MAXIMISE WHAT IS ALREADY  
AVAILABLE**

Maximise what is available, but be aware of what is being developed and prepare to take advantage.

Also, be aware of the other considerations.

Service intervals have historically been based on oil dump times - we need to look at all factors, so you may consider service intervals that are based on brake overhauls, clutch replacement, compressor overhauls ??????????

## **IRTENZ SEMINAR - 1998**

# **P A C K A G E**

**BACK TO THE PACKAGE.**

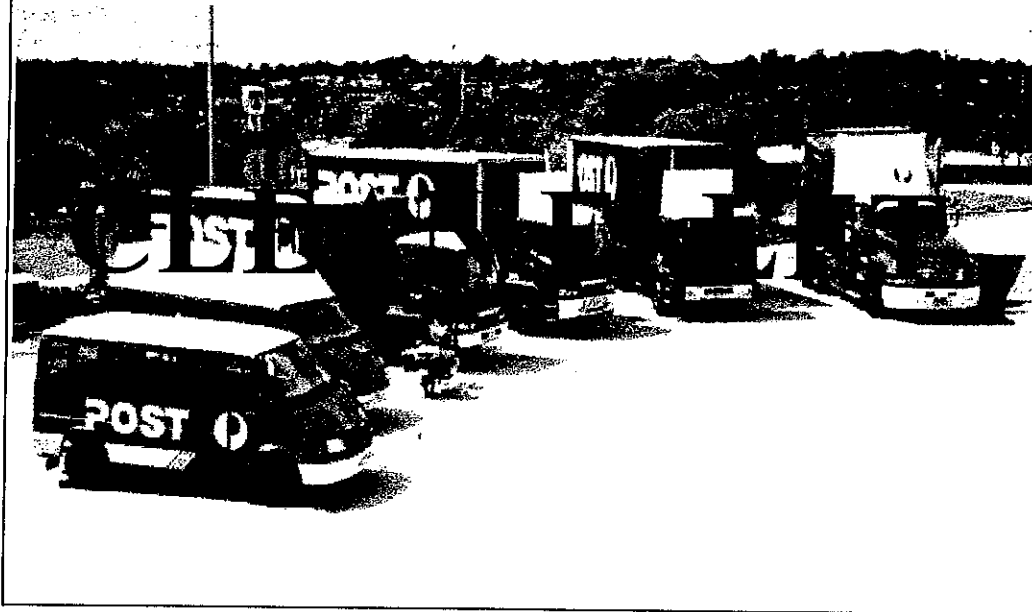
**USE THIS PRINCIPLE TO ACHIEVE EXTENDED SERVICE INTERVALS - REMEMBER TO REVISIT, REVIEW, RE-EVALUATE, MODIFY AND START AGAIN.**

**WE HAVE JUST ACHIEVED A DOUBLING OF SERVICE INTERVALS FROM 20,000KM TO 40,000KM FROM FREIGHTLINER ON OUR LINEHAUL VEHICLES IN B-DOUBLE OPERATION. IT AMOUNTS TO 1c/km.**

**AUSTRALIA POST'S CONTRIBUTION IS TO GREASE THE TAILSHAFT AT 20,000KM., WHICH CAN BE DONE OVER THE PIT DURING A NORMAL PRE-TRIP INSPECTION.**

**WE WILL INCORPORATE THIS IN OUR SAFETY PROCEDURE. WE ARE RESEARCHING SEALED UNIVERSAL BEARINGS.**

## **IRTEENZ SEMINAR - 1998**



In Australia the **Environment is a major issue** for government and rightly so.

However, in attempts to improve the environment, the government seems to be **focussed on imposing taxes and fines** to control emissions. This is really only a revenue gaining exercise. Transport looks like paying a “congestion tax” as a result.

We have to **minimise this cost by operating a “CLEAN FLEET” and seeking tax concessions.**

## **IRTEENZ SEMINAR - 1998**

### ***KEYS TO A CLEAN FLEET:***

- CORRECT VEHICLE SPECIFICATION**
- GOOD FLEET MANAGEMENT**
- GOOD MAINTENANCE**
- GOOD WASTE MANAGEMENT**
- PRO-ACTIVE RECYCLING, and**
- GOOD DRIVER PRACTICES**

**HOW DO WE ACHIEVE A CLEAN FLEET.**

**SIMPLE BASICS OF: refer to slide**

**& BE WARE OF DEVELOPMENTS.**

## **IRTEZ SEMINAR - 1998**

- **SOME EARTH SHATTERING NEWS**

**from the FORS Internet Page.**

- **Report of the \$2m National In-service Vehicle Emissions Study "Motor Vehicle Pollution In Australia"**

**"There are a number of important findings from the report, but the principle message is that substantial emission reductions can be achieved by basic good maintenance practices."**

**I CAME ACROSS THIS INFORMATION  
WHILE "DOG PADDLING" THE  
INTERNET - MAKES ONE WONDER**

**IRTENZ SEMINAR - 1998**

**AUSTRALIA POST FLEET  
GREENHOUSE MANAGEMENT**

*Environmental Impacts of  
Running Post's Transport Fleet*

IN AUSTRALIA WE HAVE A  
GOVERNMENT INITIATIVE CALLED  
THE

**“GREENHOUSE CHALLENGE”**

WHERE COMPANIES AND  
ASSOCIATIONS ARE SIGNED TO AN  
AGREEMENT THAT THEY WILL  
STRIVE TO REDUCE THE EMISSIONS  
THAT ARE DETRIMENTAL TO THE  
OZONE LAYER.

Australia Post has signed a Greenhouse  
Agreement



# **IRTEENZ SEMINAR - 1998**

## **FLEET OVERVIEW**

***10,400 Total Fleet***

**6,800 Motor Cycles**  
**1,600 Mail Vans**  
**1,000 Sedans/Wagons**  
**400 Small Trucks**  
**350 Large Trucks**  
**50 Line Haul**  
**220 Others**

**HERE IS THE FLEET AGAIN TO  
REMIND YOU OF THE NUMBER  
& TYPE OF VEHICLES WE ARE  
TALKING ABOUT.**

# **IRTEENZ SEMINAR - 1998**

## **FLEET CONSUMABLES**

**19,000,000 litres of Diesel**

**7,400,000 litres Petrol**

**230,000 litres Oil**

**31,000 Tyres**

**74,000 Filters**

**10,000 litres of Coolant**

**Millions litres of Water**

**000's Brakes, clutches & other parts**

**Tonnes of Office & Workshop rubbish**

### **REFER TO SLIDE TO TALK ABOUT FLEET CONSUMPTION**

## **IRTEENZ SEMINAR - 1998 FLEET - Greenhouse Impact**

- 60 Administrative Staff**
- 115 Service Staff**
- 2,000 Drivers**
- 4,000 Delivery staff**

**Australia Post's Transport function**

**uses 26.4 million litres of fuel**

**(986,000,000 MJ of energy) and**

**creates >9,000 tonnes of waste per annum**

**Total Greenhouse Impact is at least**

**185,000 tonnes of CO2 equivalent**

**To give you an idea what this means;  
185,000 tonnes would require 7,400 prime  
movers and trailers to take the emissions to  
the tip, or 35,000 x 5 tonne trucks.**

**Being green we would use the prime  
movers because we would use less fuel and  
therefore would create less Greenhouse  
gases. In fact, using 5 tonne trucks would  
use more that twice the fuel.**

Work practices can have a negative effect on the environment. JIT can have a major impact by demanding the delivery of goods more often by smaller vehicles significantly increases Greenhouse Emissions. The example above proves that point. In Australia we are starting JIT to the supermarkets.

## **IRTEZ SEMINAR - 1998**

### **WHAT HAVE WE DONE TO DATE**

- **Aerodynamic Devices**
  - Saved 543,958 litres of fuel
  - = 1,327 tonnes of CO2 equivalent
- **Conversion of 85% of vans to diesel**
  - Saves 3,150,173 litres of fuel
  - = 7,683 tonnes of CO2 equivalent
- **Simple fuel saving actions saves costs & 9,010 tonnes of CO2 equivalent**

**IMPROVING FUEL ECONOMY BY  
14 % SAVED >9,000 TONNES OF CO2**

**EVERY 1 TONNE OF CO2 SAVED  
REPRESENTS A SAVINGS OF  
410 LITRES OF FUEL OR \$300.**

# IRTEZ SEMINAR - 1998

## DOUBLING SERVICE INTERVALS

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**DOUBLING SERVICE INTERVALS PRESENTS  
AN OPPORTUNITY TO SAVE 40,000 FILTERS &  
114,000 LITRES OF OIL**

**WE WILL ACHIEVE SOME OF THESE SAVINGS,**

**I EXPECT A THIRD OF THE SAVINGS OVER  
THE NEXT 5 YEARS.**

## **IRTEZ SEMINAR - 1998**

### **WHAT WE ARE DOING**

- **Complete conversion to diesel**
  - Savings of 516,919 litres of fuel
  - = 1,261 tonnes of CO2 equivalent
- **Improve unit load efficiency**
  - Savings of 742,000 litres of fuel
  - = 2,145 tonnes of CO2 equivalent
- **Natural Gas Trials**
  - Potential savings to be determined
- **Greenfleet**
  - 100 vehicles included in Greenfleet program

**WE WILL CONTINUE TO IMPROVE  
PRODUCTIVITY AND SEEK OUT INITIATIVES  
THAT IMPROVE FUEL EFFICIENCY**

**- NGV vehicles are lower in particulates,  
hydrocarbons, and Nox. However, there is very little  
data on CO or CO2 but evidence is that both are also  
reduced.**

**GREENFLEET IS A SUBSTITUTION  
PROGRAMME. PLANTING TREES TO ASSIST IN  
CONVERTING CO2 .**

**7 TREES ARE NEEDED TO NEUTRALISE THE  
CO2 PRODUCED BY A FAMILY CAR. SO WE  
NEED TO PLANT A BLOODY LOT OF TREES TO  
NEUTRALISE OUR EMISSIONS.**

**(about 30,000 trees to counter our CO2 production)**

## **IRTEZ SEMINAR - 1998**

### **OTHER CONSIDERATIONS**

- **Fitch Fuel Catalyst**
  - Potential savings of 7% of fuel
  - 7% less CO2 emissions = 4,812 tonnes
- **Oil Drip Feed**
  - Potential savings to be determined
- **Increase Service Intervals**
  - Potential savings of 113,500 litres of oil and 345 tonnes of CO2 equivalent
- **Increase Retread Usage**
  - Savings of 2,000 tyres to waste/ per year

#### **Fitch Fuel Catalyst**

if tests confirm, could save 4,812 tonnes of CO2

Other emission reductions are HC @ 25%

CO @ 17%

SO2 @ 12%

NOX@5%

Part @15%

Smoke@10%

**These are minimum estimations. These figures have been endorsed by US Department of Energy. However, we are conducting our own tests, like several other companies in Australia. ie Sydney Ferries, Murchinson Gold Kalgoorie, City of Wanaroo WA, Discount Freight, Leaheys Transport, Cochrans Transport SA.**

#### **OIL DRIP FEED.**

**We are yet to test this product but it has the potential of saving all engine oil dumps for the particular engine types.**

## **IRTEENZ SEMINAR - 1998**

### **OTHER CONSIDERATIONS**

- **Recycle Waste Oil and Tyres**
  - Identify environmentally friendly alternatives for waste oil and tyres
- **Alternative Fuel Vehicles**
  - Investigate the potential of hybrids, fuel cells, etc
- **Our initiatives have saved 17,573 tonnes (10%) of CO2 equivalent without much effort.**

**Refer to slide-**

Some of our depots are being **paid for their waste**. Oil and tyres are being used as a fuel substitute in the production of cement. Tyres are being recycled as rubberised paths in parks, golf courses and trotting tracks. Tyres are also being used in erosion programmes and to create artificial reefs for marine life.

**But most rubbish disposal costs a lot of money and the creation of waste should be minimised.**



## **IRTEZ SEMINAR - 1998 OTHER TRANSPORT INITIATIVES**

### **Impacts and Influences beyond Post:**

**Environment reference manuals are being developed to help manage the effect on the environment.**

- Environmental Fleet Scorecard**
- Star Rating Scheme for Engines**
- Best Practise Waste and Parts Disposal Guidelines**
- A Guide to the use of Aerodeflectors, etc.**

**AUSTRALIA POST IS INVOLVED WITH INDUSTRY AND GOVERNMENT TO SET UP BEST PRACTISE GROUPS AND TO PROVIDE ASSISTANCE FOR OTHER FLEETS TO ACHIEVE GOOD MAINTENANCE LEVELS AND GAIN THE BENEFITS OF THOSE IMPROVEMENTS.**

**REMEMBER, EVERYTIME YOU HELP SOMEONE YOU LEARN SOMETHING NEW THAT HELPS YOU. (knowledge is a re-cycle business)**

**IRTEENZ SEMINAR - 1998**  
***BASIC GOOD MAINTENANCE***

**REDUCES:**

*COSTS (maintenance, fuel, tyres,), DOWNTIME,  
FERRYING TIME, RECOVERY, FLEET SIZE,  
STAFF ANGST.*

**IMPROVES:**

*RELIABILITY, OH&S, ENVIRONMENT,  
UTILISATION, PRODUCTIVITY, INDUSTRY  
IMAGE.*

**(wrap-up)**

**IRTEENZ SEMINAR - 1998**



**QUESTIONS**

**THANK YOU.**

**ANY QUESTIONS**