



REGROOVING TRUCK TYRES



REGROOVING OF TRUCK TYRES

- A REGROOVABLE TYRE IS...
 - A TYRE THAT HAS BEEN DESIGNED AND CONSTRUCTED WITH SUFFICIENT UNDERLYING TREAD MATERIAL TO ALLOW THE RENEWAL OF, OR THE CREATION OF A TREAD PATTERN BEYOND THE ORIGINAL MOULDED GROOVE DEPTH TO ENHANCE ITS TREADWEAR CHARACTERISTICS PRIOR TO BEING RETREADED.
- DONE WITH REGARD TO THE ORIGINAL INTEGRITY OF THE TYRE
- DONE IN ACCORDANCE WITH REGULATORY REQUIREMENTS.

REGROOVABILITY

OBJECTIVES AND PROCESS

- TO OBTAIN AN INCREASED LIFE FROM THE ORIGINAL TYRE
- POTENTIAL COST SAVING IF
 - CORRECT PROCESS ADHERED TO
 - AND **FAVOURABLE EXTERNAL PARAMETERS** ARE IN PLACE
- CAN PROVIDE INCREASED WET GRIP
 - BY DEEPENING AND WIDENING EXISTING TREAD GROOVES
 - AND PROVIDING UNOBSTRUCTED FLUID ESCAPE PASSAGES

REGROOVABILITY TOOLS OF THE TRADE



- **HAND HELD GROOVING TOOL**
 - SINGLE CUT OPERATOR GUIDED
 - EXTREMELY PORTABLE / LOW COST
 - GROOVE DEPTH ACCURACY LOW AS DEPENDANT ON TRAVELLING OVER ANY EXISTING WEAR PATTERNS IN TYRE
 - DEPENDANT ON OPERATOR SKILL AND JUDGEMENT



- **FREE STANDING CAGE AND GROOVER**
 - ABILITY TO CUT MULTIPLE GROOVES
 - ALLOWS A MORE CONSISTANT DEPTH OF CUT
 - REDUCES PROCESS TIME - DOWNTIME MAY BE INCREASED IF NOT ON SITE
 - HIGHER INITIAL COST OUTLAY

REGROOVABILITY

CURRENT ACCEPTANCE AND USAGE

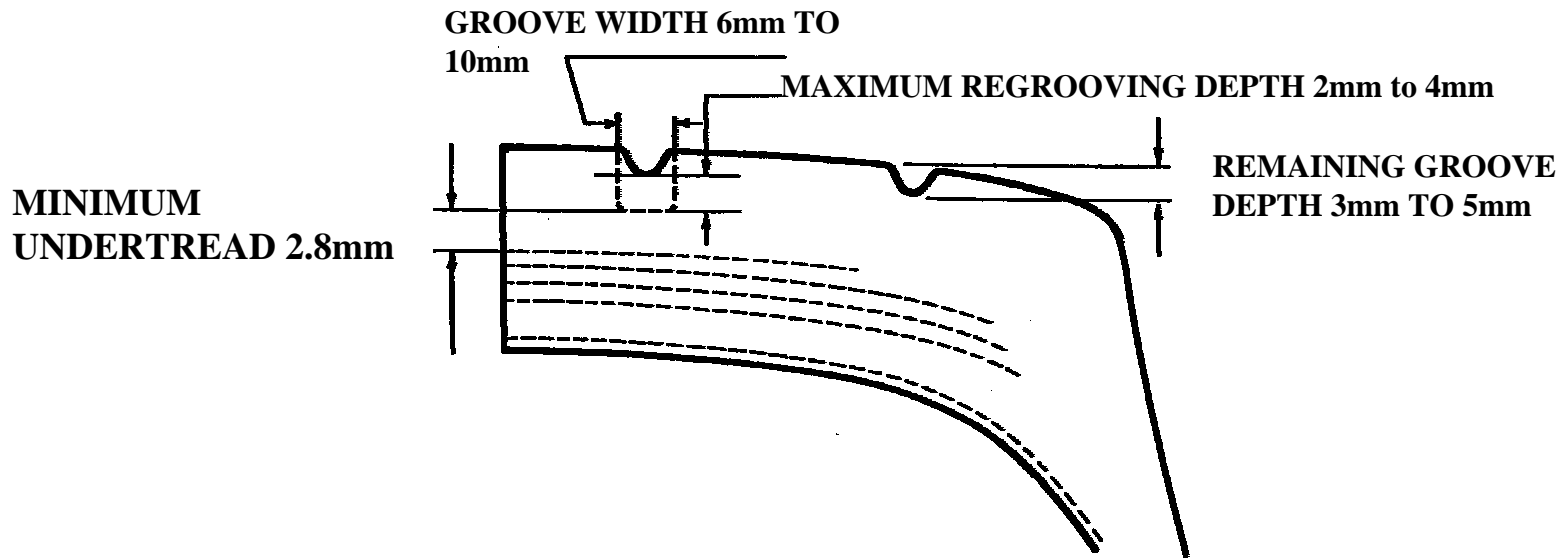
- FAIRLY WELL ACCEPTED THROUGHOUT EUROPE BUT THE COST AND TIME REQUIRED FOR SKILLED OPERATORS HAS LED TO A DECLINE IN ITS USE
- TYPICALLY UTILIZED BY
 - BUS COMPANIES AND
 - OPERATORS EXPERIENCING RAPID AND EVEN TREAD WEAR
- PRIMARILY USED FOR (DUALS)
 - DRIVE TYRES
 - TRAILER TYRES
- PROCESS NOT POPULAR ON STEER TYRES DUE TO
 - INCREASED IRREGULAR WEAR
 - HIGHER POTENTIAL FOR FAILURE AFTER THE REGROOVE PROCESS.
(STEER TYRES MAY BE REGROOVED FOR TRAILER USE)

REGROOVABILITY FACTORS AFFECTING

SUCCESSFUL REGROOVING OFTEN DICTATED BY ...

- EVEN WEAR CHARACTERISTICS
 - HIGH VEHICLE AND TYRE MAINTENANCE PROVIDERS
- A RELATIVELY CLEAN TREAD OPERATING ENVIRONMENT
 - LOW INCIDENCE OF STONE BRUISING, TREAD CHIPPING ETC
- COST AND BENEFIT VS' CASING DEGRADATION
- SKILL LEVEL OF OPERATOR & QUALITY OF REGROOVING TOOLS

REGROOVABILITY CONTROL PARAMETERS



- PERFORMED WHEN THE ORIGINAL TREAD DEPTH IS APPROX 5mm
- REGROOVED TO AN ADDITIONAL DEPTH OF 2mm TO 4mm
CONSULT TYRE MANUFACTURERS SPECS
- AFTER REGROOVING:
 - A PROTECTIVE RUBBER GUAGE OF 2.8mm IS REQUIRED ABOVE THE BELT/CORD PACKAGE OF THE TYRE
 - THERE MUST BE NO GROOVE CRACKING OR WEAR THAT EXTENDS TO THE BELT/CORD PACKAGE

REGROOVABILITY CASING CONCERNS



- INCREASED RISK OF STONE DRILLING AND BRUISED BELT PACKAGE
(DUE TO REDUCED UNDERTREAD CUSHIONING)



- MIXED SERVICE & OFF-ROAD APPLICATIONS MAY SUFFER A NEGATIVE CASING LIFE USAGE DUE TO AN INCREASE IN INJURIES.

REGROOVABILITY

TREADWEAR ISSUES



- IRREGULAR WEAR / SHOULDER
 - WILL NOT PERMIT REGROOVING WITH MANUAL TYPE GROOVING OPERATIONS.
 - INCREASES DIFFICULTY OF REGROOVING WHILE DECREASING THE EFFECTIVENESS OF THE PROCESS IE: PROJECTED kms.
 - WILL NOT BE ELIMINATED OR REDUCED BY REGROOVING

REGROOVABILITY

MANUAL REGROOVING



- REGROOVING MANUALLY CAN PRODUCE
 - GROOVE DEPTH INCONSISTANCIES...
 - INACCURACIES WITH GROOVE WIDTH AND WATER CHANNELLING

REGROOVABILITY

POOR REGROOVING



GROOVE CUT TOO DEEPLY

- TOP BELT HAS BECOME EXPOSED RESULTING IN CORROSION AND FINALLY TYRE FAILURE
- EARLY BREAKDOWN OF UNDERTREAD PROTECTIVE RUBBER GUAGE DUE TO UNSKILLED REGROOVING

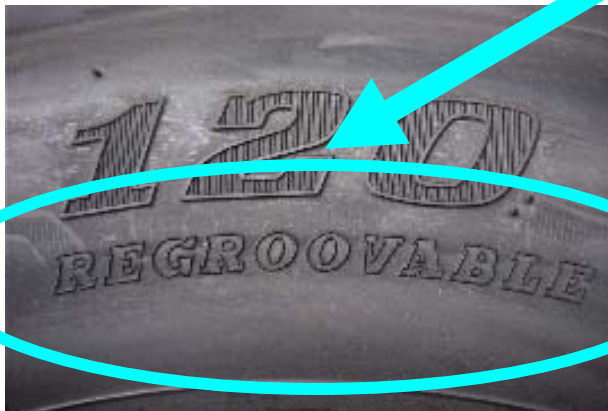
REGROOVABILITY

MARKINGS & GROOVE DEPTH INDICATORS



- GROOVE DEPTH INDICATORS
 - LOCATED ON THE TWI SHOW THE MAXIMUM PERMISSABLE DEPTH OF ANY NEW CUT MADE TO THE TYRE.

- MARKINGS
 - ONLY TYRES MARKED “REGROOVABLE” ON THE SIDEWALL MAY BE REGROOVED



- NOTE
 - NOT ALL TYRES MARKED “REGROOVABLE” CONTAIN GROOVE DEPTH INDICATORS AND FURTHER CARE IS REQUIRED TO ASSERTAIN THE CORRECT DEPTH OF CUT

REGROOVABILITY

RETREADING CONSIDERATIONS



- REGROOVING TYRES CAN LEAD TO FUTURE RETREADING CONCERNS....
 - THE TYRES TOP BELT/PLY PACKAGE IS LESS PROTECTED FROM DAMAGE IN THE FORM OF CUTS, BRUISING AND PENETRATION
 - INCREASED BELT DECAY FROM ELEMENTS ENTERING VIA GROOVE CRACKING



REGROOVABILITY

RETREADABILITY CONSIDERATIONS



- REGROOVING TYRES CAN LEAD TO FUTURE RETREADING CONCERNS....
 - INCREASED TIME REQUIRED FOR ACCURACY AND CONTROL IN ATTAINING THE CORRECT BUFF DUE TO A DECREASE IN WORKABLE RUBBER
 - INSTANCES OF EXCESSIVE TREAD WEAR VOIDING THE BUFFING PROCESS DUE TO LOW VOLUMES OF UNDERTREAD RUBBER



REGROOVABILITY

IN SUMMARY

- THE PROCESS INVOLVED IN REGROOVING REQUIRES
 - SKILL
 - ATTENTION TO DETAIL
 - REGULAR MONITORING
 - ACCOUNTS WHERE TRUCK ROUTES DO NOT VARY.

- THERE IS AN INCREASED RISK OF CASING DAMAGE DURING THE REGROOVED SERVICE OF THE TYRE PRIOR TO RETREADING

- THE COSTS AND TIME INVOLVED IN REGROOVING MAY WELL OUTWEIGH THE INCREASED TREADWEAR BENEFITS

- FLAT, EVEN WEAR IS A MUST



Thanks for listening !

