

KEMS – 0006, MAIN FEATURES



- **MONITORS BLOCK MOVEMENT**
- **MONITORS HOOK LOAD**
- **CALCULATES DISTANCE**
- **APPLIES BRAKES**
- **MINIMIZES DAMAGE & INJURY**
- **IMPROVES SAFETY**



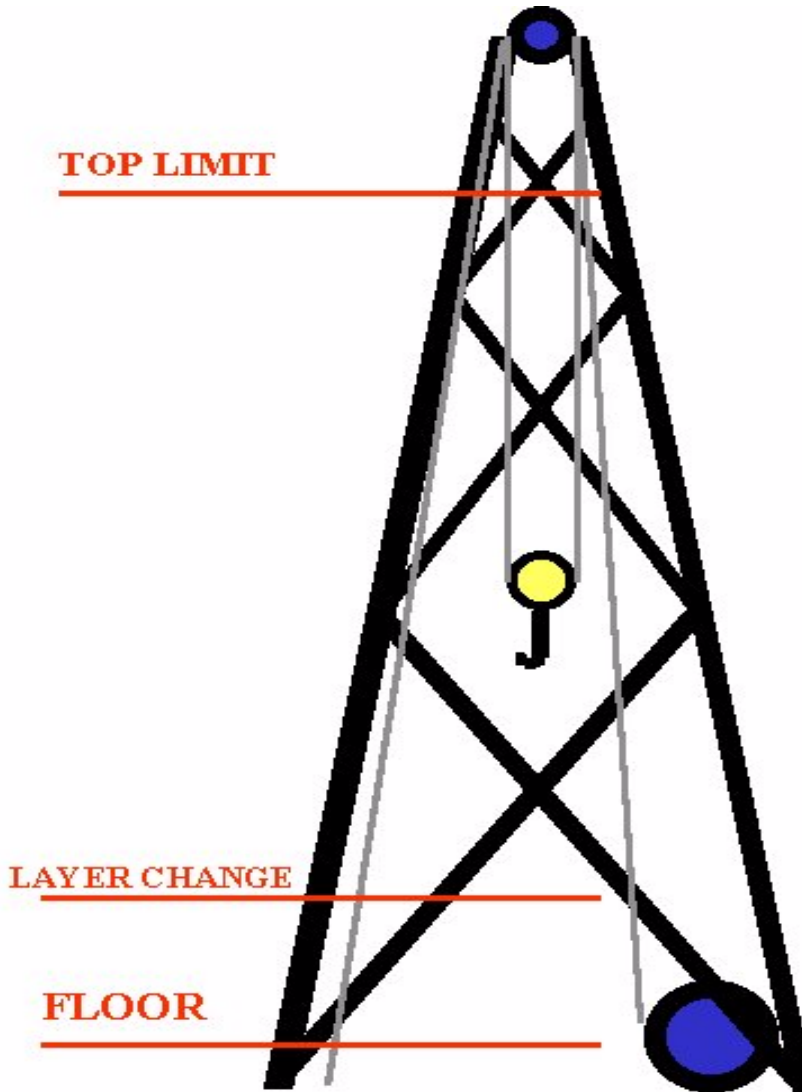
KEMS – 0006, DISPLAY PARAMETERS



- **SIMULTANEOUS DISPLAY**
- **HOOK LOAD**
- **BLOCK SPEED**
- **HEIGHT FROM FLOOR**
- **TON MILES**
- **WOB / ROP**
- **SET-UP MENU**
- **MAINTENANCE MENU**



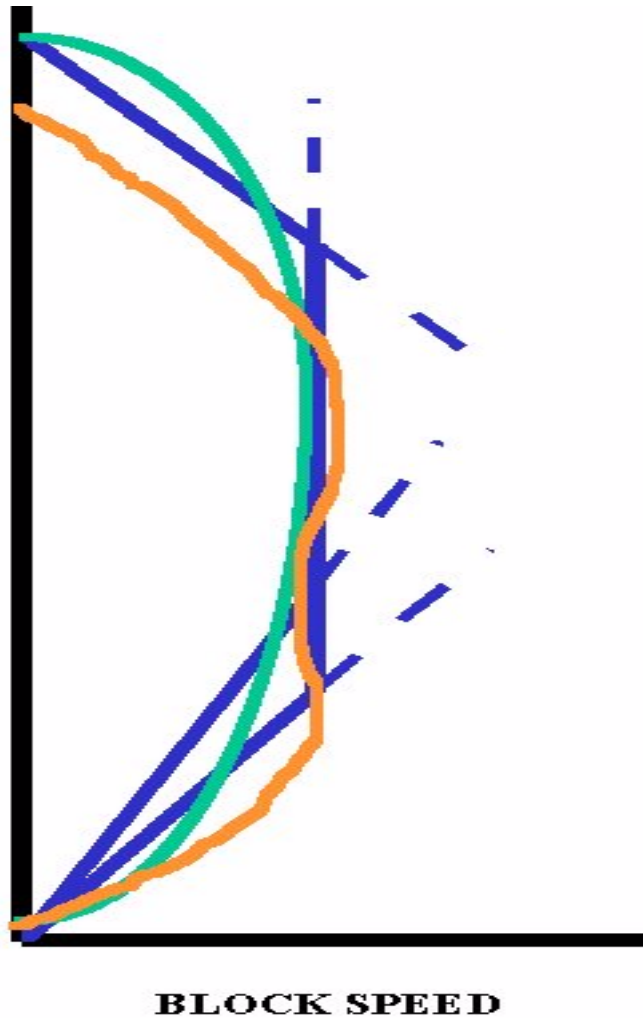
KEMS – 0006, SET-UP



- CUT & SLIP FRIENDLY
- DRILLER'S RESET
- SET FLOOR LEVEL
- INPUT LAYER
- SET TOP LIMIT
- MENU DRIVEN SETTING



KEMS – 0006, FLEXIBILITY

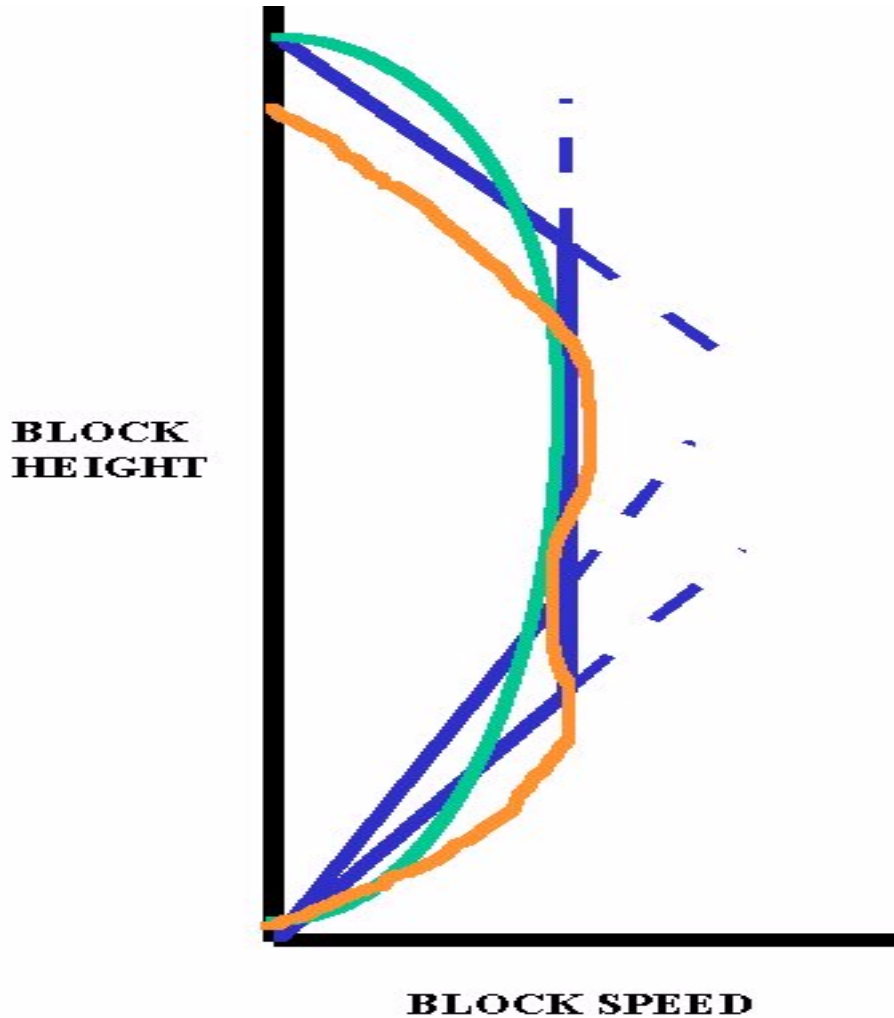


- 5 CALIBRATION FACTORS
- HFAC: HEIGHT FACTOR - LOWER BRAKING POINT
- HLF: HOOK LOAD FACTOR- UPPER BRAKING POINT
- VLIMIT: MAX ALLOWABLE DOWNWARD VELOCITY
- TLF: SOFT STOP DE-THROTTLE
- MD: MAIN BRAKE DELAY



NATIONAL OILWELL

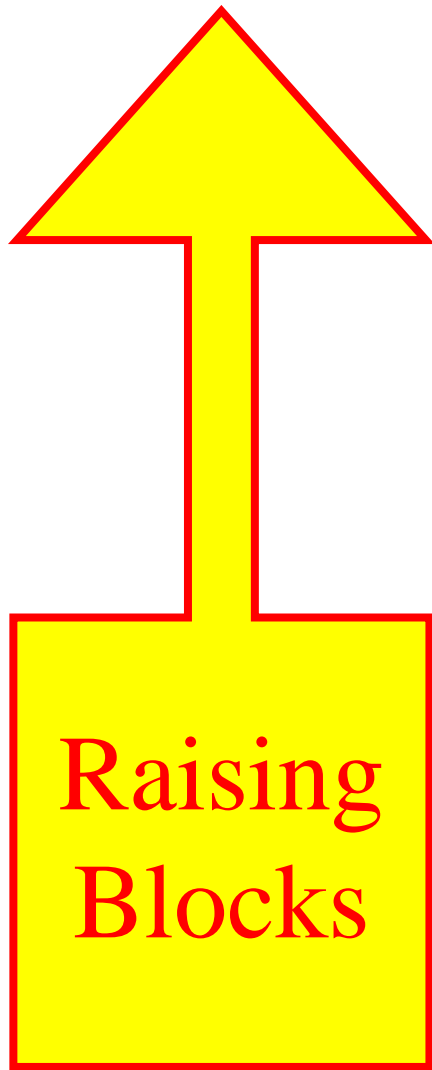
KEMS – 0006, PERFORMANCE



- **BLOCK SPEED UNDER DRILLER'S CONTROL**
- **KEMS - 0005 VELOCITY PROFILE**
- **BLOCK SPEED UNDER KEMS - 0005 CONTROL**



KEMS – 0006, BENEFITS



■ TWO STAGE CROWN PROTECTION

STAGE 1

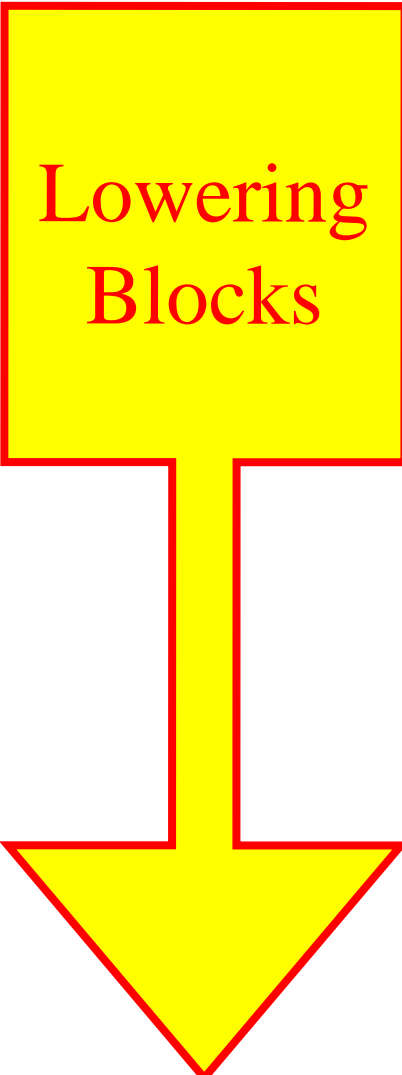
- APPLIES ELMAGCO / BAYLOR BRAKE MOMENTARILY
- DE-THROTTLES MOTORS (SCR BRAKING)
- AUDIBLE & VISUAL ALARM

STAGE 2

- DE-CLUTCHES DRIVE MOTORS
- APPLIES MAIN BRAKES
- **SOFT STOP – AVOIDS “BIRDS NESTS”**



KEMS – 0006, BENEFITS



Lowering
Blocks

■ MULTI STAGE FLOOR PROTECTION

STAGE 1 (MULTIPLE ACTIONS AS REQUIRED)

- APPLIES ELMAGCO / BAYLOR BRAKE TO ACHIEVE ZERO ACCELERATION
- AUDIBLE & VISUAL ALARM

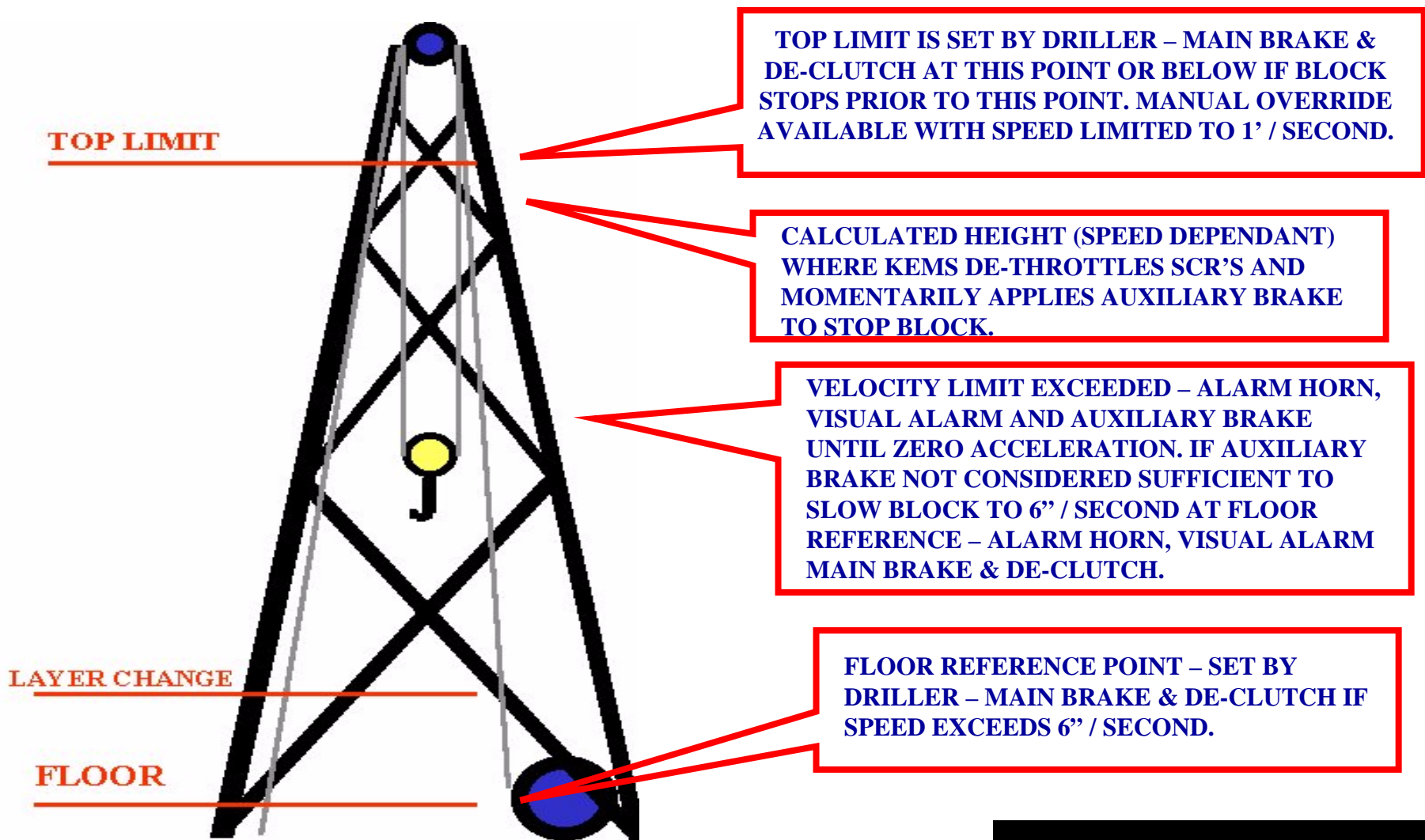
STAGE 2

- APPLIES ELMAGCO / BAYLOR BRAKE
- AUDIBLE & VISUAL ALARM
- DE-CLUTCHES DRIVE MOTORS
- APPLIES MAIN BRAKES
- **SOFT STOP – AVOIDS SHOCK LOADS**
- **MONITORS AUX. BRAKE**



NATIONAL OILWELL

KEMS – 0006, OPERATION



KEMS – 0006 WITH AUTO-DRILLER, MAIN FEATURES



- **MONITORS BLOCK MOVEMENT**
- **MONITORS BIT WEIGHT**
- **CALCULATES PAYOUT**
- **CONTROLS BRAKES**
- **EXTENDS BIT LIFE**
- **IMPROVES RATE OF PENETRATION**



KEMS – 0006, BENEFITS

Auto-
Drilling

- **SELF LEARNING SOFTWARE**
- **REMEMBERS BRAKE SETTINGS**
- **HIGH RESOLUTION SHAFT ENCODER**
- **SMALL LOWERING INCREMENTS**
- **SYSTEM MATCHES REQUIRED ROP OR CHANGE OF WEIGHT ON BIT TO DRUM ROTATION & BRAKE RESPONSE**
- **MAXIMIZES RATE OF PENETRATION**
- **AVOIDS OVER-WEIGHTING OF BIT**



KEMS – 0006, SAFETY CONSIDERATIONS

👉 ALL THESE RIGS HAD CROWN SAVER TYPE DEVICES 👈

Alert 99-03: TRAVELING BLOCK INCIDENT
An incident occurred on a rig recently set back working on the down-hole had a slow start that the clutch was revealed that there was a serious equipment failure.

Alert 90-21: NEAR MISS – CROWNOUT
While pulling the bit, the BHA stand and its on top of the blocks at time to avoid contact. The potential for serious damage occurred.

Alert 62-22: TOP DRIVE UNIT AND TRAVELING BLOCKS FALL TO RIG FLOOR
A small cable rig (275 mwd) was on its first top drive for 3-4 weeks. While stepping out of the rig, the crown saver device failed to pull the stand, a noise was heard above the rig, which the rotary table and top drive were started out.

Alert 93-34: PREVENTING CROWN COLLISIONS
The crown saver device toggle will contact and engage the crown saver device. However, due to speed, the blocks hit the crown. The crown was undamaged but dropped objects posed a hazard to the crew.

Drilling Solutions

👉 KEMS – 0006 COULD HAVE PREVENTED ALL OF THESE INCIDENTS 👈

