EXPERIMENTAL DESCRIPTION

TITLE  TRIUMPH 1147 A-7  TEST #  1
CAM PART # MFT A7 KASTNER  DATE 02-14-13

EXPERIMENT CHECKING CAM FOR DESIGN AND NUMBERS MFT
WORN CAM CHECK FOR DESIGN AND NUMBERS
ACG DURATIONS= 293@13  278@.020  244@.050  LIFT=.287 L\C=106
HEEL DIAM=.900 ON THE BILLIT CORE
DATA SAVED @.050  0-LASH 1.5-1 ROCKER RATIO FLAT LIFTER USED
DATA DISC MFT 12-08 VOLVO +OTHERS RED IN COLOR
ADVERTISED A-7 293  .410 LIFT LASH .020  107 L\C???

KEYWORDS  1. TRIUMPH
2. 1147 CC
3. KASTNER
4. SCCA

THE CAM DOCTOR'S ANALYSIS  CYL#  1

INTAKE & EXHAUST
LOBE CENTER SEP = 105.5 CAM DEG
VALVE OVERLAP = 33.3 CRANK DEG

INTAKE
VALVE OPENING = 17 'BTDC
LOBE CENTER = 105.5 'ATDC
VALVE CLOSURE = 46.9 'ABDC
DURATION = 243.9 CRANK DEG
MAX CAM LIFT = .28768 IN.
NET VALVELIFT = .43152 IN.
LOBE 'AREA' = 25.07 IN * DEG

EXHAUST
VALVE OPENING = 48.2 'BBDC
LOBE CENTER = 105.5 'BTDC
VALVE CLOSURE = 16.3 'ATDC
DURATION = 244.6 CRANK DEG
MAX CAM LIFT = .28713 IN.
NET VALVELIFT = .43069 IN.
LOBE 'AREA' = 25.08 IN * DEG

PRESS ANY KEY TO CONTINUE - <ESC> TO REDO

| | 1.500 | ROCKER RATIO | 1.500 | |
|---|---|---|---|---|
| Valve | .018 | LASH | .020 | Valve |
| 105.86 | 105.79 | TRUE CENTERLINES | 105.20 | 105.12 |

INTAKE (Gross Lift = .2869) CAM DURATIONS EXHAUST (Gross Lift = .2871)

| OPEN | CLOSE | TOTAL | LIFT | OPEN | CLOSE | TOTAL |
|---|---|---|---|---|---|---|
| 147.06 | 145.28 | 292.34 | .013 | 146.66 | 146.94 | 293.60 |
| 144.40 | 142.67 | 287.06 | .015 | 144.19 | 144.04 | 288.23 |
| 139.55 | 137.91 | 277.46 | .020 | 139.63 | 138.99 | 278.62 |
| 122.50 | 120.90 | 243.40 | .050 | 122.90 | 121.63 | 244.53 |
| 102.44 | 101.15 | 203.59 | .100 | 102.80 | 101.80 | 204.60 |
| 66.91 | 65.37 | 132.28 | .200 | 67.24 | 65.94 | 133.18 |

INTAKE (Net Lift = .4123) VALVE DURATIONS EXHAUST (Net Lift = .4107)

| OPEN | CLOSE | TOTAL | LIFT | OPEN | CLOSE | TOTAL |
|---|---|---|---|---|---|---|
| 148.65 | 146.83 | 295.49 | SEAT | 146.18 | 146.36 | 292.54 |
| 146.57 | 144.79 | 291.37 | .002 | 144.57 | 144.47 | 289.05 |
| 144.00 | 142.29 | 286.29 | .005 | 142.49 | 142.13 | 284.62 |
| 124.70 | 123.04 | 247.74 | .050 | 124.45 | 123.17 | 247.63 |
| 110.40 | 109.07 | 219.47 | .100 | 110.28 | 109.21 | 219.49 |
| 86.98 | 85.55 | 172.53 | .200 | 86.39 | 85.73 | 172.12 |
| 61.90 | 60.46 | 122.36 | .300 | 61.69 | 60.39 | 122.08 |

CAM EVENTS

| INTAKE | | | EXHAUST | |
|---|---|---|---|---|
| OPEN | CLOSE | LIFT | OPEN | CLOSE |
| 41.1 BTC | 71.3 ABC | .013 | 71.7 BBC | 41.9 ATC |
| 38.4 BTC | 68.7 ABC | .015 | 69.2 BBC | 39.0 ATC |
| 33.5 BTC | 63.9 ABC | .020 | 64.6 BBC | 34.0 ATC |
| 16.5 BTC | 46.9 ABC | .050 | 47.9 BBC | 16.6 ATC |
| 3.6 ATC | 27.2 ABC | .100 | 27.8 BBC | 3.2 BTC |
| 39.1 ATC | 8.6 BBC | .200 | 7.8 ABC | 39.1 BTC |

VALVE EVENTS

| | | | | |
|---|---|---|---|---|
| 42.7 BTC | 72.8 ABC | SEAT | 71.2 BBC | 41.4 ATC |
| 40.6 BTC | 70.8 ABC | .002 | 69.6 BBC | 39.5 ATC |
| 38.0 BTC | 68.3 ABC | .005 | 67.5 BBC | 37.1 ATC |
| 18.7 BTC | 49.0 ABC | .050 | 49.5 BBC | 18.2 ATC |
| 4.4 BTC | 35.1 ABC | .100 | 35.3 BBC | 4.2 ATC |
| 19.0 ATC | 11.5 ABC | .200 | 11.4 BBC | 19.3 BTC |
| 44.1 ATC | 13.5 BBC | .300 | 13.3 ABC | 44.6 BTC |

| INTAKE | SPECIAL VALVE EVENTS | EXHAUST |
|---|---|---|
| .117 | Valve Lift @TDC | .117 |
| .248 | Valve Lift @BDC | .249 |
| .384 | Valve Lift @75 deg. | .383 |

## CAM AREAS

| INTAKE | | | | EXHAUST | | |
|---|---|---|---|---|---|---|
| OPEN | CLOSE | TOTAL | LIFT TOTAL | OPEN | CLOSE | TOTAL |
| 12.58 | 12.36 | 24.94 | .013 | 12.57 | 12.51 | 25.08 |
| 11.44 | 11.25 | 22.69 | .015 | 11.47 | 11.34 | 22.81 |
| 11.29 | 11.11 | 22.40 | .020 | 11.32 | 11.19 | 22.51 |
| 10.94 | 10.76 | 21.69 | .050 | 10.97 | 10.84 | 21.81 |
| 8.98 | 8.83 | 17.81 | .100 | 9.01 | 8.90 | 17.91 |
| 6.18 | 6.06 | 12.24 | .200 | 6.20 | 6.11 | 12.31 |
| 1.92 | 1.88 | 3.80 | | 1.94 | 1.90 | 3.84 |

## VALVE AREAS

| INTAKE | | | | EXHAUST | | |
|---|---|---|---|---|---|---|
| OPEN | CLOSE | TOTAL | LIFT SEAT | OPEN | CLOSE | TOTAL |
| 17.27 | 16.99 | 34.25 | .002 | 17.17 | 16.97 | 34.13 |
| 17.12 | 16.84 | 33.96 | .005 | 17.02 | 16.82 | 33.84 |
| 16.90 | 16.62 | 33.52 | .050 | 16.81 | 16.61 | 33.41 |
| 13.91 | 13.67 | 27.57 | .100 | 13.83 | 13.65 | 27.47 |
| 10.97 | 10.77 | 21.74 | .200 | 10.90 | 10.75 | 21.65 |
| 6.05 | 5.92 | 11.97 | .300 | 5.99 | 5.89 | 11.88 |
| 2.31 | 2.25 | 4.55 | | 2.26 | 2.21 | 4.48 |

## OVERLAPS

| LIFT | CAM OVERLAP | AREA |
|---|---|---|
| .013 | 83.0 | 1.316 |
| .015 | 77.4 | 1.236 |
| .020 | 67.5 | 1.056 |
| .050 | 33.1 | .325 |

| LIFT | VALVE OVERLAP | AREA |
|---|---|---|
| SEAT | 84.0 | 1.996 |
| .002 | 80.0 | 1.914 |
| .005 | 75.1 | 1.797 |
| .050 | 36.9 | .593 |
| .100 | 8.6 | .035 |

## MAXIMUM VALUES (Cam/Valve)

| | Intake | | | Exhaust | |
|---|---|---|---|---|---|
| | OPEN | CLOSE | | OPEN | CLOSE |
| VEL | .005951/.008926 | .005891/.008836 | VEL | .005814/.008722 | .005892/.008838 |
| ACC | .0003186/.0004779 | .0003173/.0004759 | ACC | .0003288/.0004932 | .0003124/.0004687 |
| DECEL | .0001854/.0002781 | | DECEL | .0001877/.0002815 | |

## VALVE SEATING VELOCITIES

INTAKE: .0016456 ( 37.026 @ 7500)

EXHAUST: .0018665 ( 41.996 @ 7500)