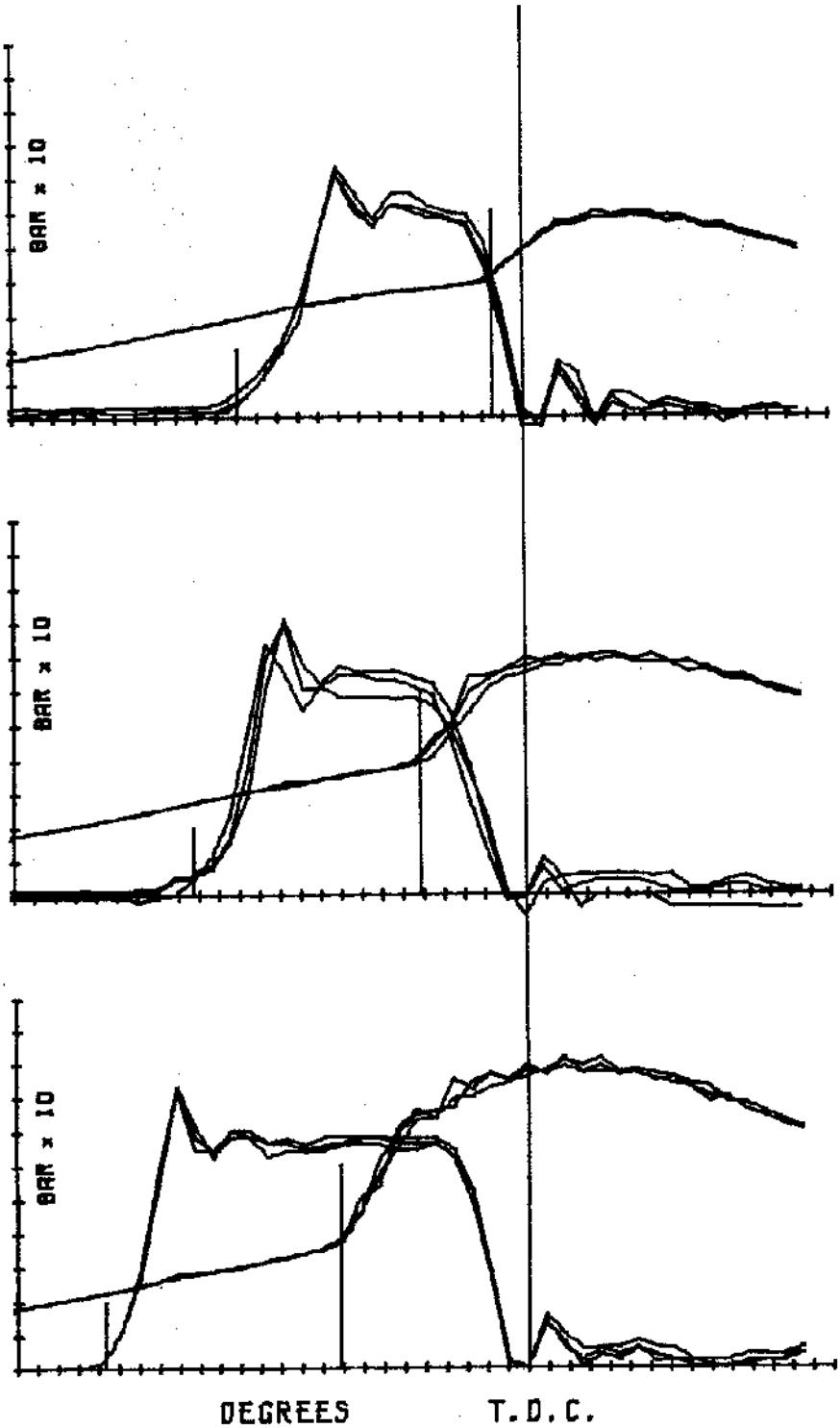
8. APPENDICES

8.1. Engine Results Curves

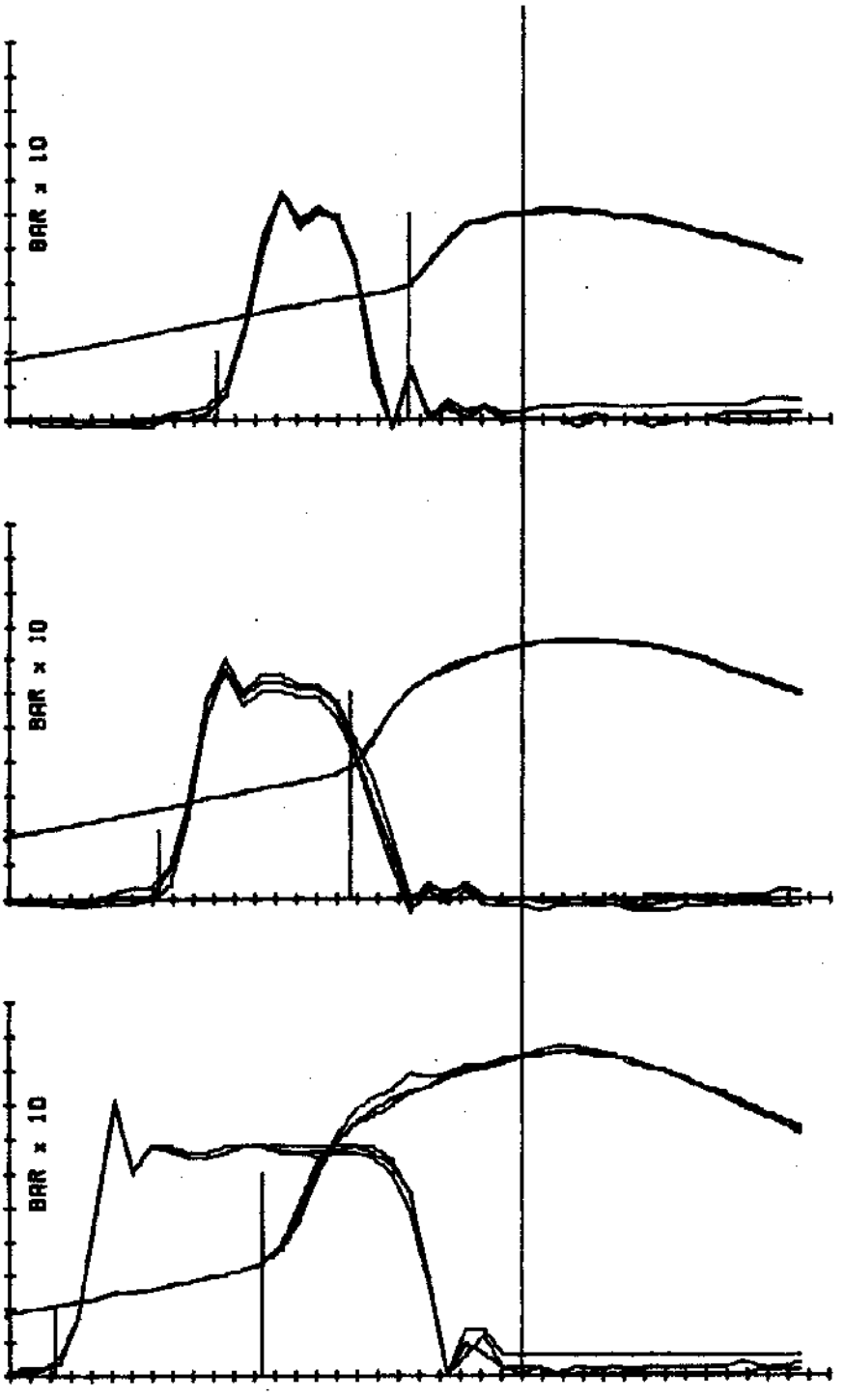


AVERAGE
TORQUE : 37
R.P.M. : 2034
START OF
INJN. : 13.9
COMBN. : 1.4
DELAY
DEGREES : 12.5
mS : 1.025
MAXIMUM
PRESSURE: 59
RATE : 5.6
TEMPERATURES
AIR INLET: 32
EXHAUST : 197

AVERAGE
TORQUE : 69
R.P.M. : 2028
START OF
INJN. : 16.2
COMBN. : 5.1
DELAY
DEGREES : 11.1
mS : .912
MAXIMUM
PRESSURE: 70.4
RATE : 9.3
TEMPERATURES
AIR INLET: 31
EXHAUST : 265

AVERAGE
TORQUE : 140
R.P.M. : 2009
START OF
INJN. : 20.7
COMBN. : 9.1
DELAY
DEGREES : 11.6
mS : .956
MAXIMUM
PRESSURE: 90.5
RATE : 13.3
TEMPERATURES
AIR INLET: 31
EXHAUST : 377

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : DIST 100 C.V. : 42.75 DENSITY : .849
TEST ID. : UNIDO-0	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP1

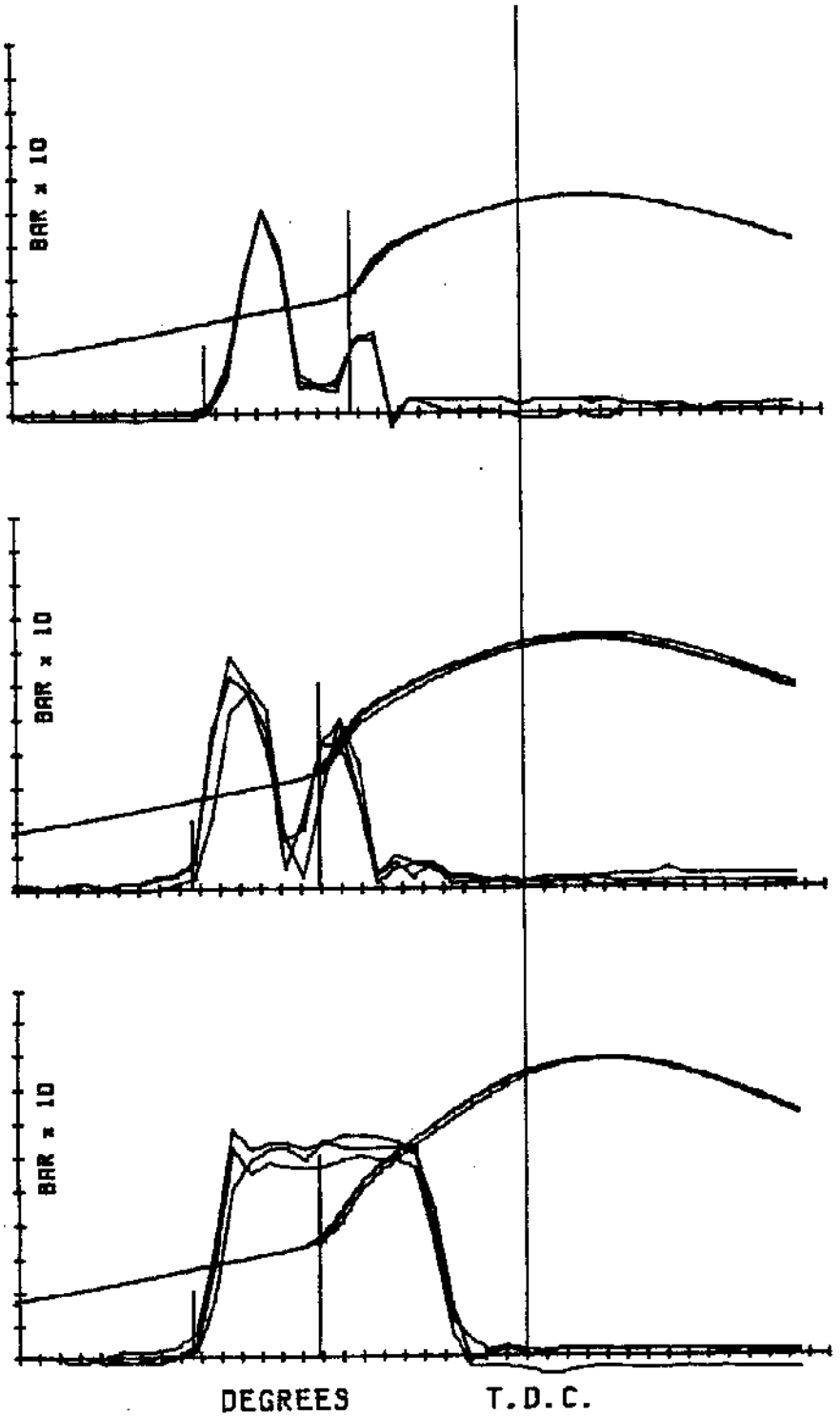


AVERAGE
TORQUE : 37
R.P.M. : 1451
START OF
INJN. : 14.6
COMBN. : 5.6
DELAY
DEGREES : 9.2
mS : 1.067
MAXIMUM
PRESSURE: 61.4
RATE : 6.7
TEMPERATURES
AIR INLET: 31
EXHAUST : 154

AVERAGE
TORQUE : 88
R.P.M. : 1458
START OF
INJN. : 17.7
COMBN. : 8.3
DELAY
DEGREES : 9.4
mS : 1.088
MAXIMUM
PRESSURE: 75.4
RATE : 9.5
TEMPERATURES
AIR INLET: 31
EXHAUST : 233

AVERAGE
TORQUE : 148
R.P.M. : 1452
START OF
INJN. : 22.8
COMBN. : 12.6
DELAY
DEGREES : 10.2
mS : 1.166
MAXIMUM
PRESSURE: 98.2
RATE : 13.6
TEMPERATURES
AIR INLET: 31
EXHAUST : 397

ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : DIST 100 C.V. : 42.75 DENSITY : .849
TEST ID. : UNIDO-0	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP2

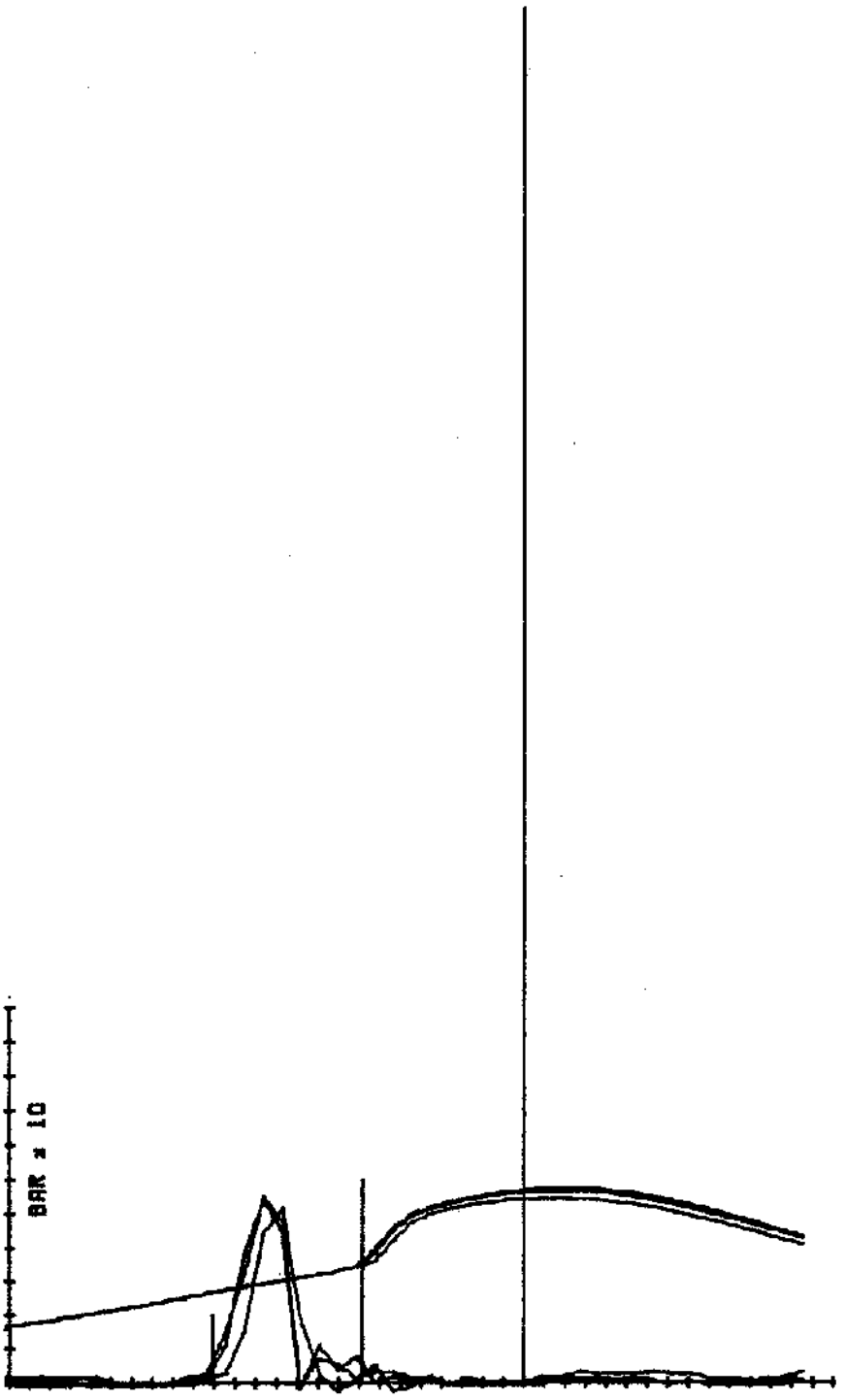


AVERAGE
TORQUE : 37
R.P.M. : 617
START OF
INJN. : 15.5
COMBN. : 6.4
DELAY
DEGREES : 7.1
mS : 1.465
MAXIMUM
PRESSURE: 64.5
RATE : 7.4
TEMPERATURES
AIR INLET: 31
EXHAUST : 140

AVERAGE
TORQUE : 69
R.P.M. : 609
START OF
INJN. : 16.4
COMBN. : 10.1
DELAY
DEGREES : 6.3
mS : 1.298
MAXIMUM
PRESSURE: 73.4
RATE : 8.2
TEMPERATURES
AIR INLET: 31
EXHAUST : 196

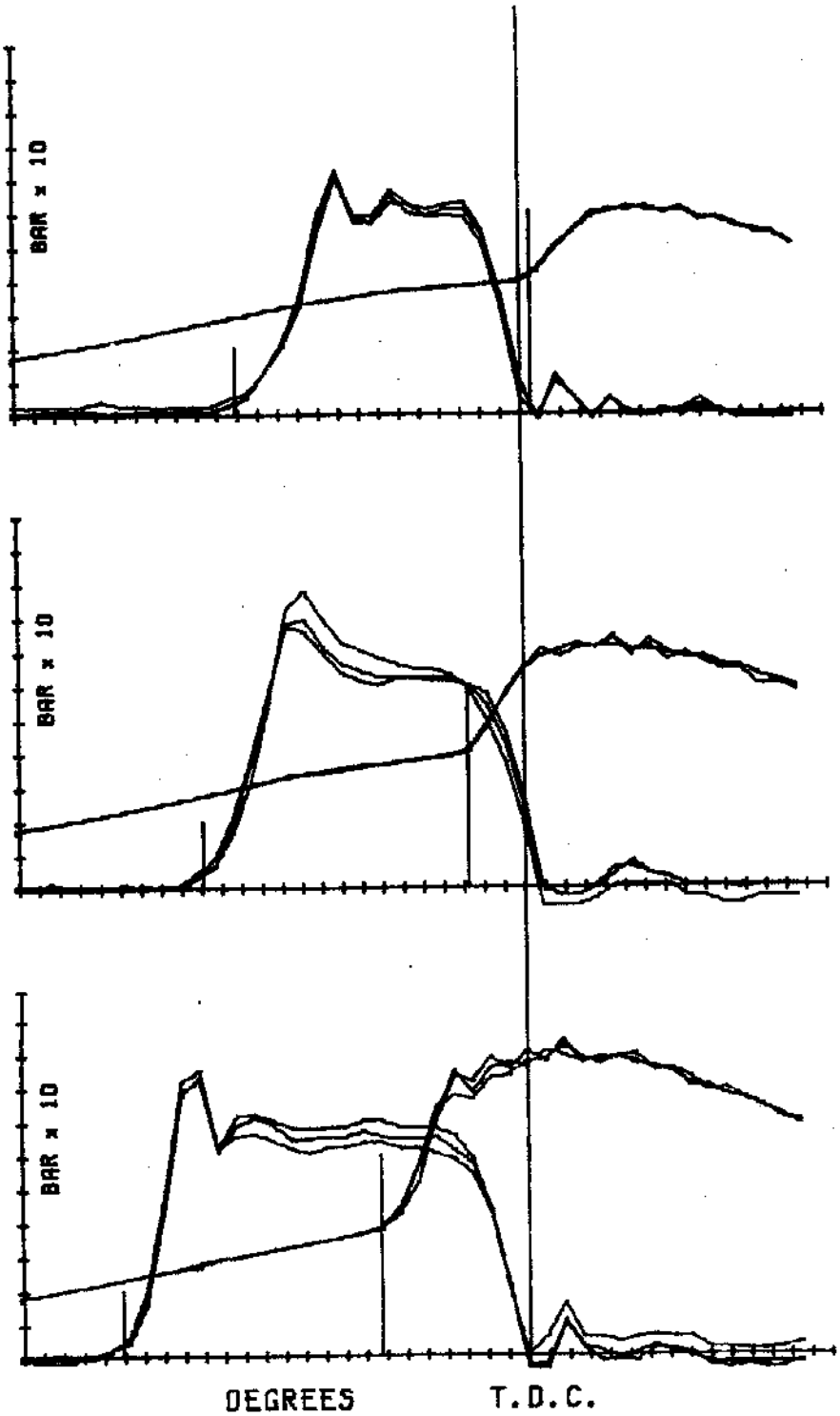
AVERAGE
TORQUE : 146
R.P.M. : 643
START OF
INJN. : 16.4
COMBN. : 10.1
DELAY
DEGREES : 6.3
mS : 1.24
MAXIMUM
PRESSURE: 86
RATE : 8.6
TEMPERATURES
AIR INLET: 31
EXHAUST : 321

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : DIST 100 C.V. : 42.75 DENSITY : .849
TEST ID. : UNIDO-0	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP3



AVERAGE
TORQUE : 3
R.P.M. : 820
START OF
INJN. : 15.1
COMBN. : 7.8
DELAY
DEGREES : 7.3
mS : 1.471
MAXIMUM
PRESSURE: 55.8
RATE : 8.3
TEMPERATURES
AIR INLET: 28
EXHAUST : 94

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : DIST 100 C.V. : 42.75 DENSITY : .849
TEST ID. : UNIDO-0	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP4

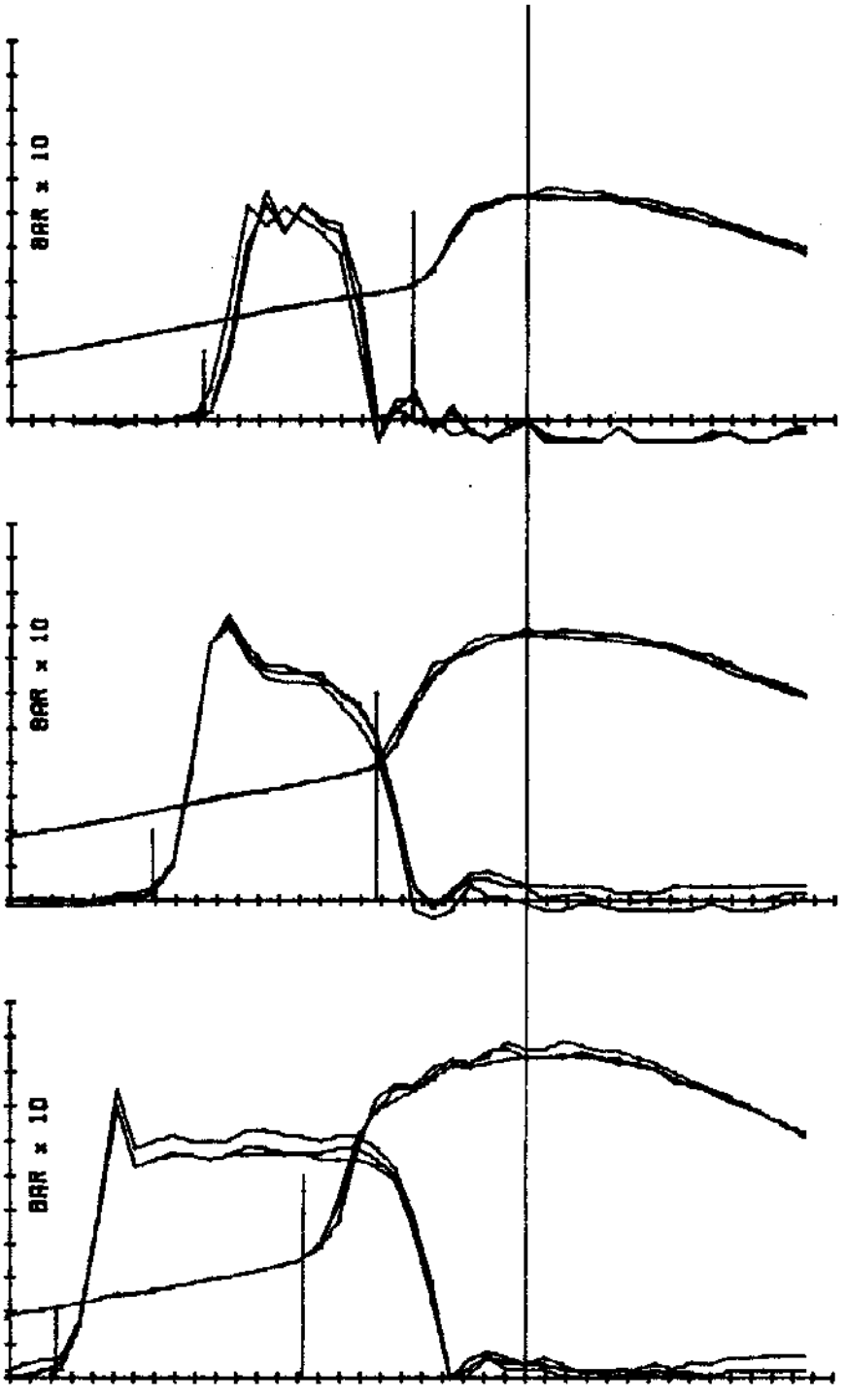


AVERAGE
TORQUE : 35
R.P.M. : 2028
START OF
INJN. : 14.1
COMBN. : -.6
DELAY
DEGREES : 14.6
mS : 1.202
MAXIMUM
PRESSURE: 61.5
RATE : 6.8
TEMPERATURES
AIR INLET: 29
EXHAUST : 176

AVERAGE
TORQUE : 68
R.P.M. : 2042
START OF
INJN. : 16
COMBN. : 2.8
DELAY
DEGREES : 13.2
mS : 1.074
MAXIMUM
PRESSURE: 73.1
RATE : 9.5
TEMPERATURES
AIR INLET: 31
EXHAUST : 278

AVERAGE
TORQUE : 136
R.P.M. : 2011
START OF
INJN. : 20.1
COMBN. : 7.3
DELAY
DEGREES : 12.8
mS : 1.063
MAXIMUM
PRESSURE: 92.7
RATE : 17.6
TEMPERATURES
AIR INLET: 31
EXHAUST : 356

ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : E20 C.V. : 38 DENSITY : .846
TEST ID. : UNIDO-1	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP5

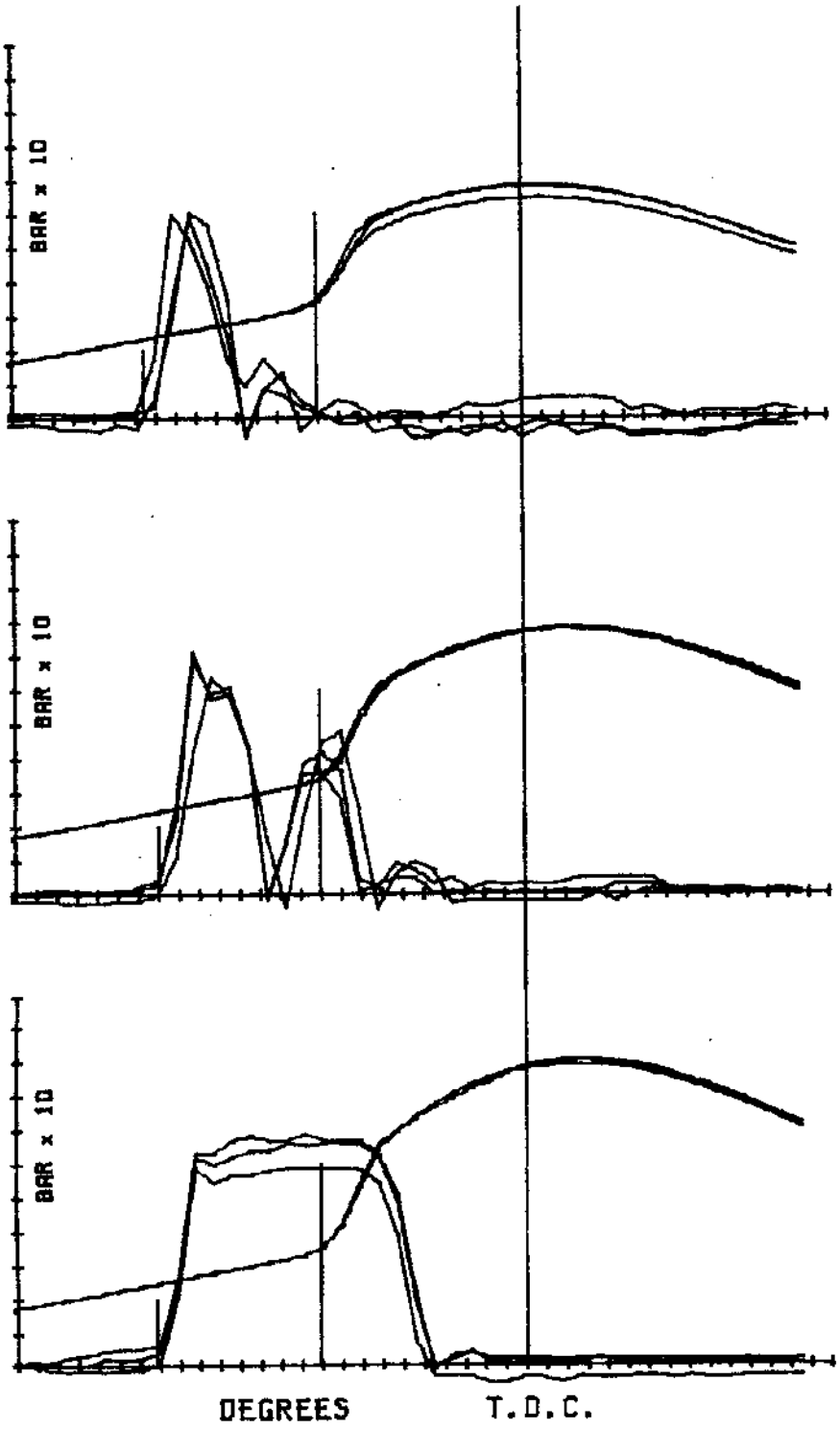


AVERAGE
TORQUE : 39
R.P.M. : 1436
START OF
INJN. : 15.6
COMBN. : 5.5
DELAT
DEGREES : 10.1
mS : 1.178
MAXIMUM
PRESSURE: 65.3
RATE : 9.1
TEMPERATURES
AIR INLET: 29
EXHAUST : 155

AVERAGE
TORQUE : 89
R.P.M. : 1444
START OF
INJN. : 16.1
COMBN. : 7.3
DELAT
DEGREES : 10.8
mS : 1.25
MAXIMUM
PRESSURE: 78.8
RATE : 12.4
TEMPERATURES
AIR INLET: 32
EXHAUST : 230

AVERAGE
TORQUE : 146
R.P.M. : 1450
START OF
INJN. : 22.6
COMBN. : 10.7
DELAT
DEGREES : 12.1
mS : 1.383
MAXIMUM
PRESSURE: 97.1
RATE : 20
TEMPERATURES
AIR INLET:30
EXHAUST : 371

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : E20 C.V. : 38 DENSITY : .846
TEST ID. : UNIDO-1	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP6

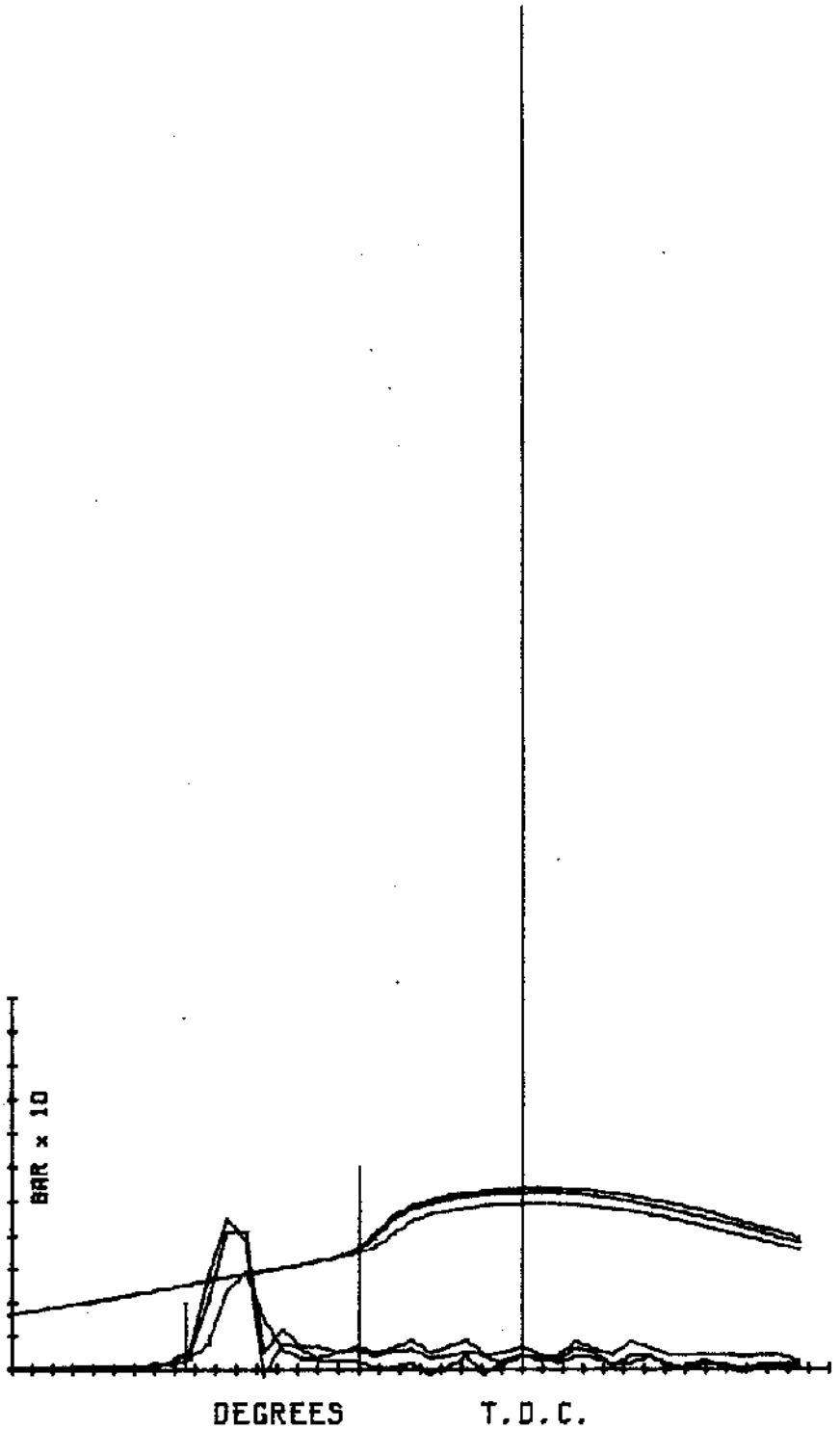


AVERAGE
TORQUE : 38
R.P.M. : 824
START OF
INJN. : 18.6
COMBN. : 10.1
DELAY
DEGREES : 8.5
mS : 1.723
MAXIMUM
PRESSURE: 67
RATE : 9.7
TEMPERATURES
AIR INLET: 28
EXHAUST : 135

AVERAGE
TORQUE : 92
R.P.M. : 824
START OF
INJN. : 16
COMBN. : 10
DELAY
DEGREES : 6
mS : 1.6
MAXIMUM
PRESSURE: 77.9
RATE : 10.6
TEMPERATURES
AIR INLET: 29
EXHAUST : 199

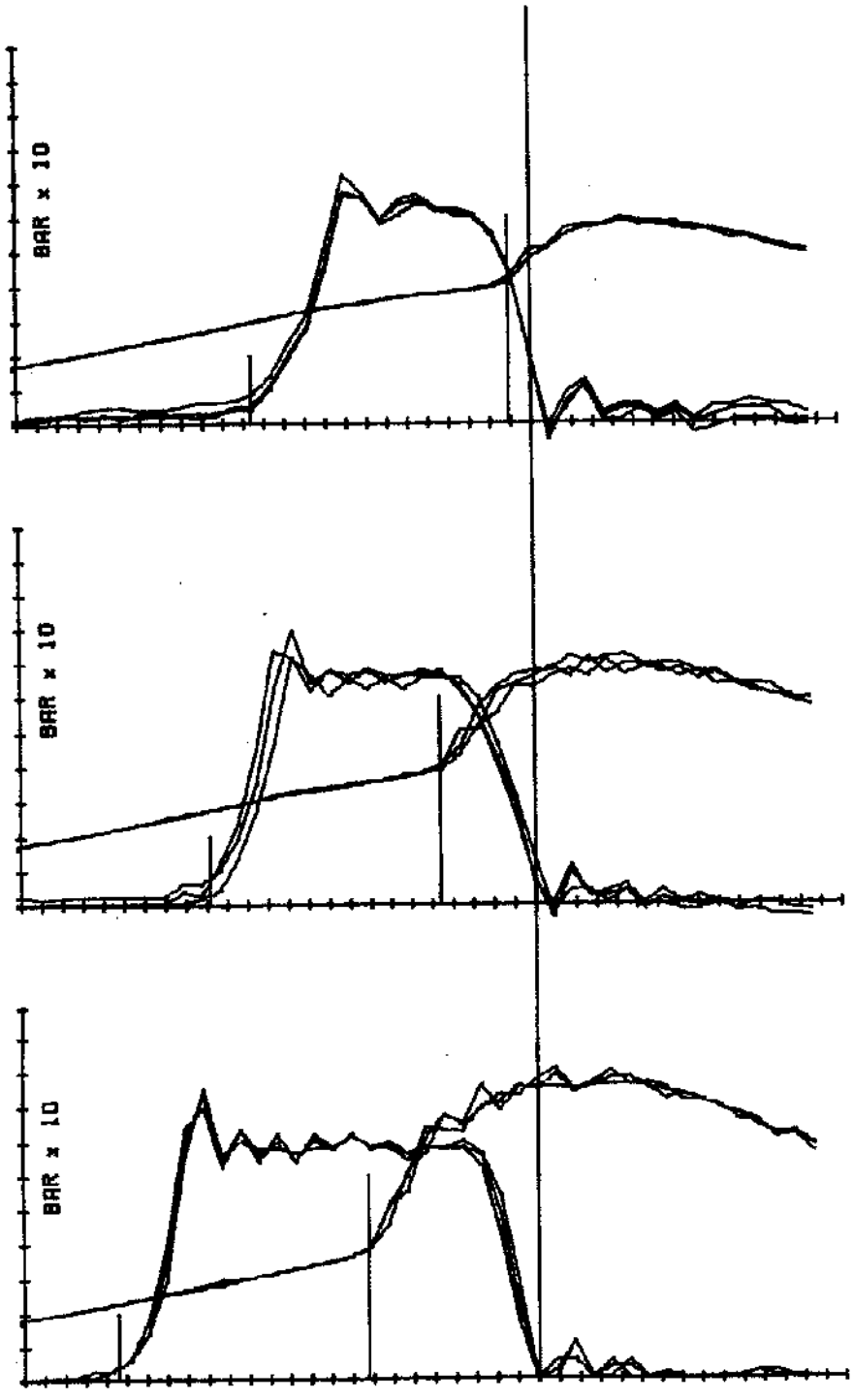
AVERAGE
TORQUE : 146
R.P.M. : 848
START OF
INJN. : 18.2
COMBN. : 10.1
DELAY
DEGREES : 8.1
mS : 1.591
MAXIMUM
PRESSURE: 88.6
RATE : 12.1
TEMPERATURES
AIR INLET: 31
EXHAUST : 312

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : E20 C.V. : 38 DENSITY : .846
TEST ID. : UNIDO-1	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP7



AVERAGE
TORQUE : 3
R.P.M. : 632
START OF
INJN. : 18.5
COMBN. : 0
DELAT
DEGREES : 6.5
mS : 1.703
MAXIMUM
PRESSURE: 52.6
RATE : 4.9
TEMPERATURES
AIR INLET: 29
EXHAUST : 94

ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : E20 C.V. : 36 DENSITY : .846
TEST ID. : UNIDO-1	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP6

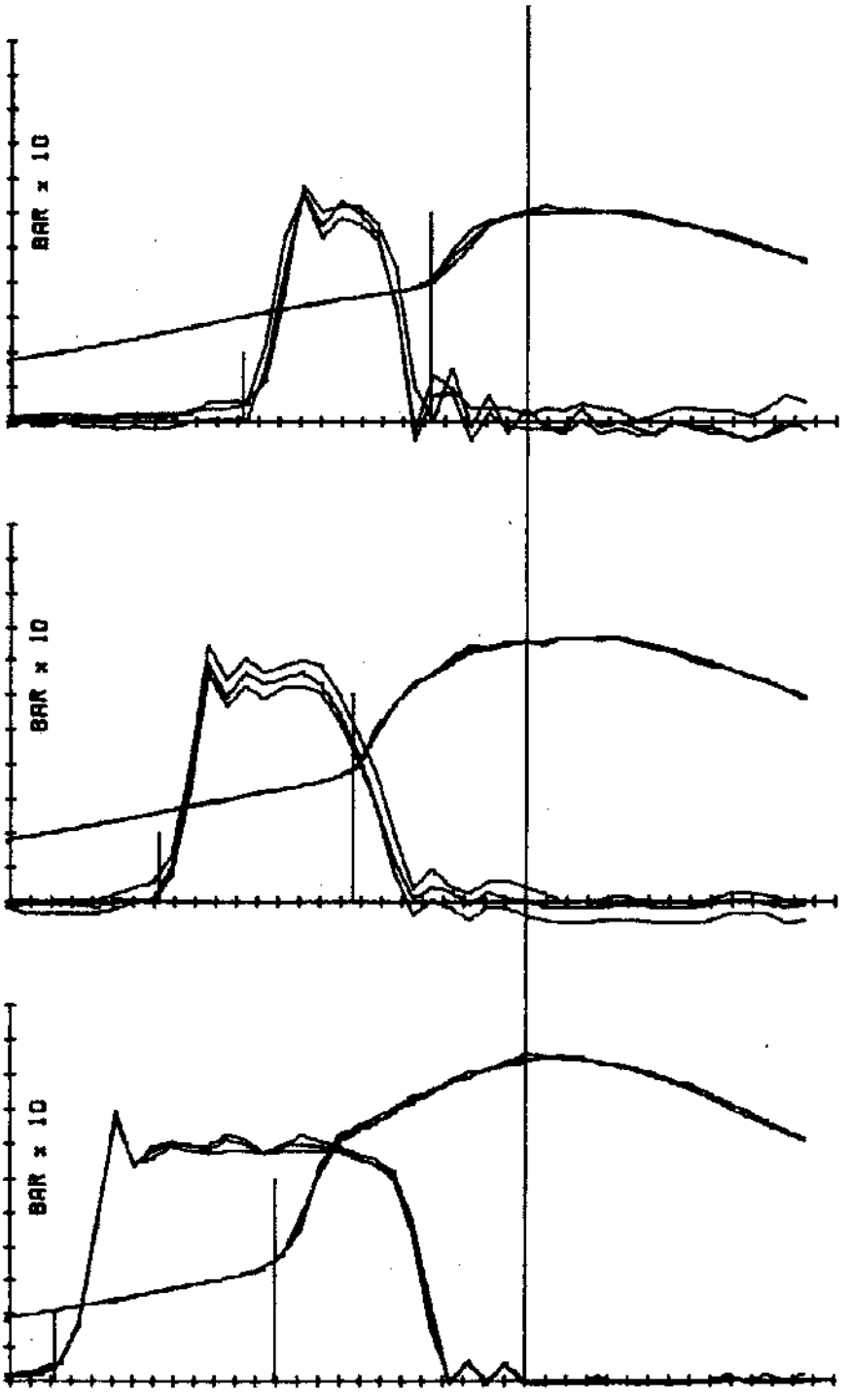


AVERAGE
TORQUE : 35
R.P.M. : 2028
START OF
INJN. : 13.8
COMBN. : 1.1
DELAY
DEGREES : 12.5
mS : 1.03
MAXIMUM
PRESSURE: 58.8
RATE : 6.9
TEMPERATURES
AIR INLET: 28
EXHAUST : 181

AVERAGE
TORQUE : 69
R.P.M. : 2084
START OF
INJN. : 15.6
COMBN. : 4.6
DELAY
DEGREES : 11.2
mS : .902
MAXIMUM
PRESSURE: 71.1
RATE : 9.4
TEMPERATURES
AIR INLET: 30
EXHAUST : 277

AVERAGE
TORQUE : 133
R.P.M. : 2056
START OF
INJN. : 20.4
COMBN. : 8.2
DELAY
DEGREES : 12.2
mS : .966
MAXIMUM
PRESSURE: 89.6
RATE : 14.6
TEMPERATURES
AIR INLET: 28
EXHAUST : 384

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : E20/2.6TEGDN C.V. : 38.42 DENSITY : .847
TEST ID. : UNIDO-2	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP9

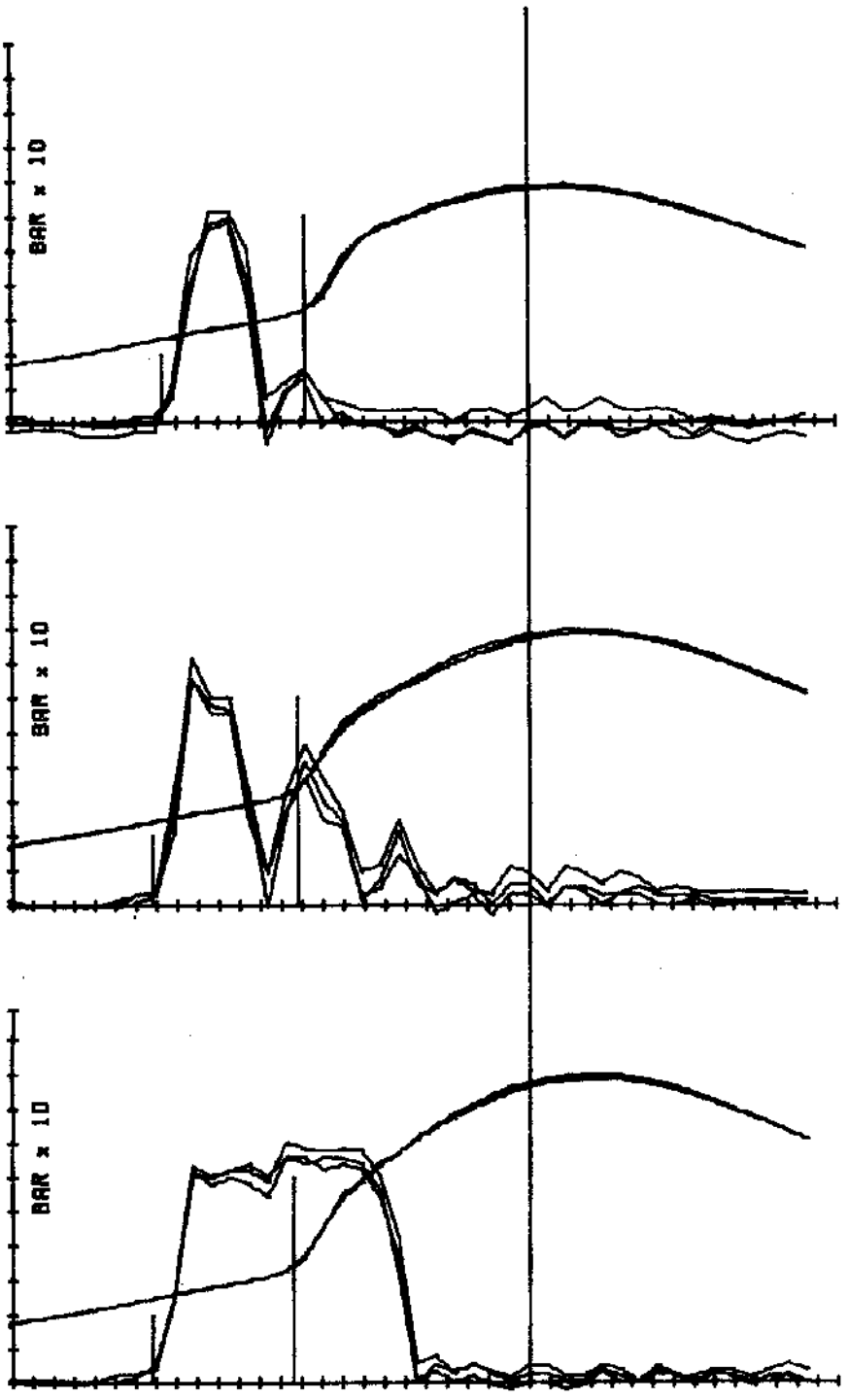


AVERAGE
TORQUE : 35
R.P.M. : 1436
START OF
INJN. : 13.7
COMBN. : 4.7
DELAY
DEGREES : 9
mS : 1.049
MAXIMUM
PRESSURE: 61.1
RATE : 6.8
TEMPERATURES
AIR INLET: 28
EXHAUST : 153

AVERAGE
TORQUE : 88
R.P.M. : 1443
START OF
INJN. : 17.8
COMBN. : 8.4
DELAY
DEGREES : 9.4
mS : 1.084
MAXIMUM
PRESSURE: 77.2
RATE : 10.8
TEMPERATURES
AIR INLET: 30
EXHAUST : 226

AVERAGE
TORQUE : 144
R.P.M. : 1444
START OF
INJN. : 22.8
COMBN. : 12.1
DELAY
DEGREES : 10.7
mS : 1.241
MAXIMUM
PRESSURE: 85.5
RATE : 16
TEMPERATURES
AIR INLET: 29
EXHAUST : 375

ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : E20/2.6TEGDN C.V. : 38.42 DENSITY : .847
TEST ID. : UNIDO-2	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP10

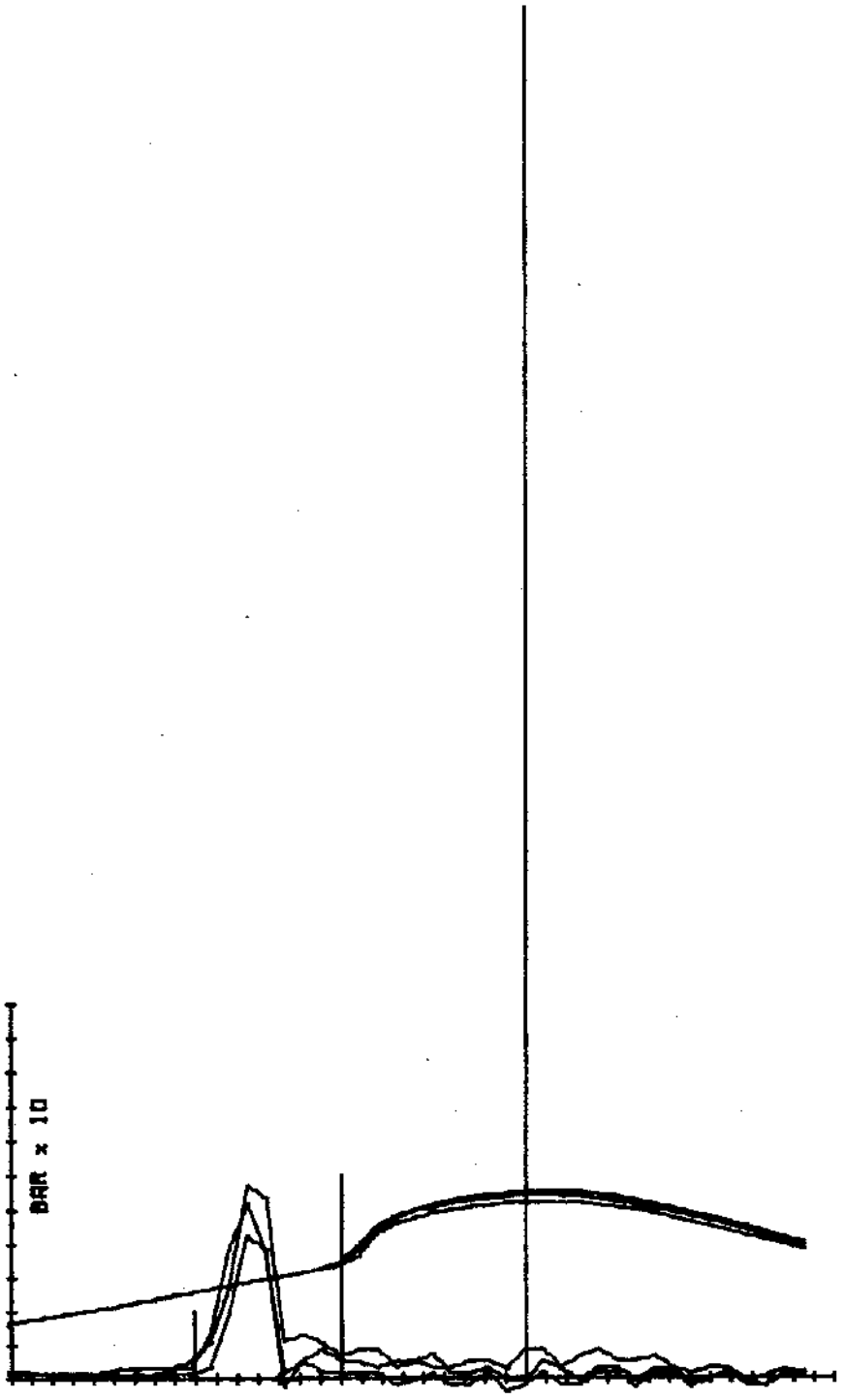


AVERAGE
TORQUE : 37
R.P.M. : 848
START OF
INJN. : 17.7
COMBN. : 10.8
DELAY
DEGREES : 6.9
mS : 1.35
MAXIMUM
PRESSURE: 66.3
RATE : 9.6
TEMPERATURES
AIR INLET: 30
EXHAUST : 136

AVERAGE
TORQUE : 90
R.P.M. : 822
START OF
INJN. : 18.2
COMBN. : 11.2
DELAY
DEGREES : 7
mS : 1.426
MAXIMUM
PRESSURE: 78.9
RATE : 8.6
TEMPERATURES
AIR INLET: 30
EXHAUST : 205

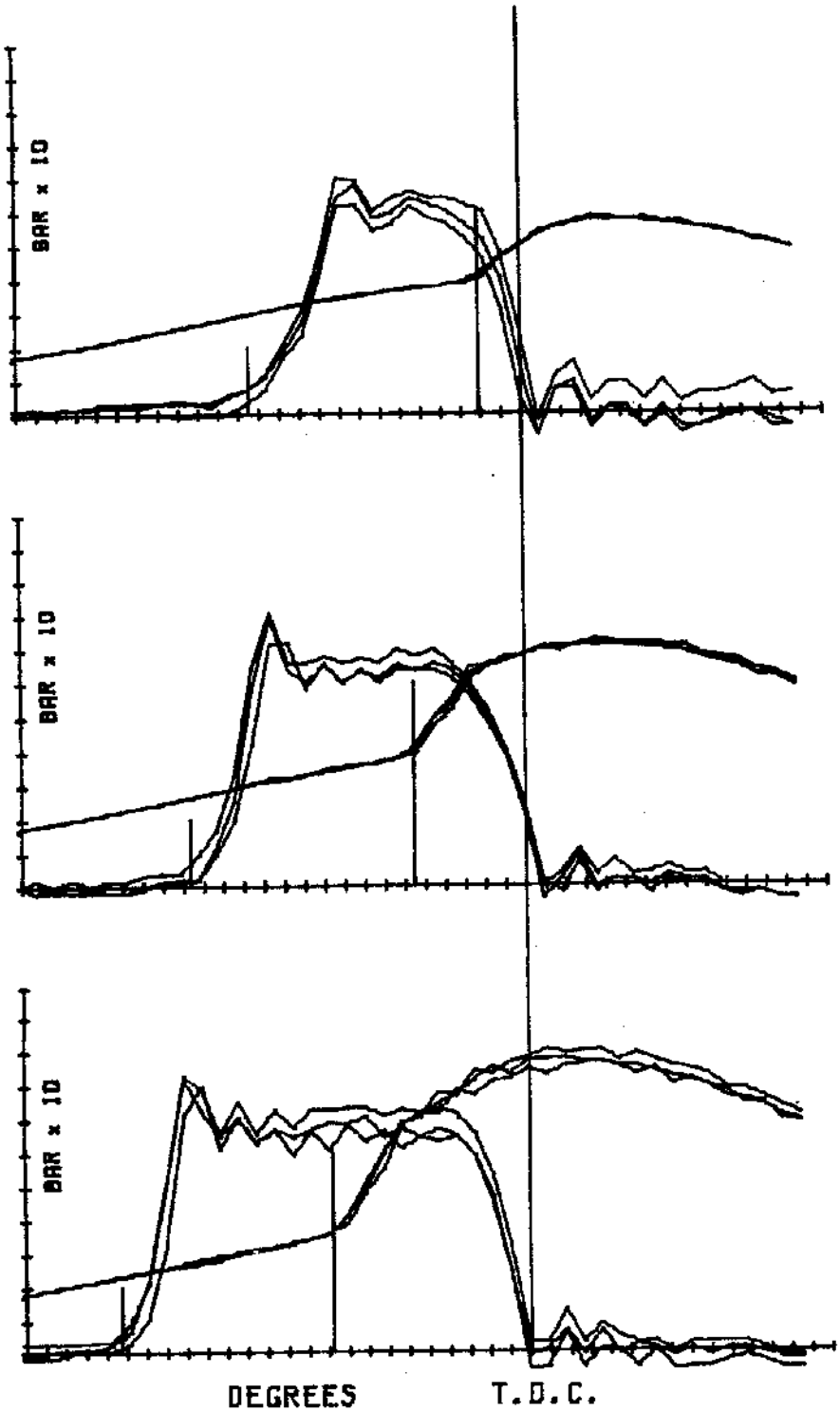
AVERAGE
TORQUE : 145
R.P.M. : 836
START OF
INJN. : 18.2
COMBN. : 11.4
DELAY
DEGREES : 6.8
mS : 1.352
MAXIMUM
PRESSURE: 89.3
RATE : 9.2
TEMPERATURES
AIR INLET: 31
EXHAUST : 314

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : E20/2.6TEGDN C.V. : 38.42 DENSITY : .847
TEST ID. : UNIDO-2	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP11



AVERAGE
TORQUE : 3
R.P.M. : 829
START OF
INJN. : 18.1
COMBN. : 8
DELAY
DEGREES : 7.1
mS : 1.424
MAXIMUM
PRESSURE: 54.4
RATE : 6.1
TEMPERATURES
AIR INLET: 28
EXHAUST : 100

ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : E20/2.6TEGDN C.V. : 38.42 DENSITY : .847
TEST ID. : UNIDO-2	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP12

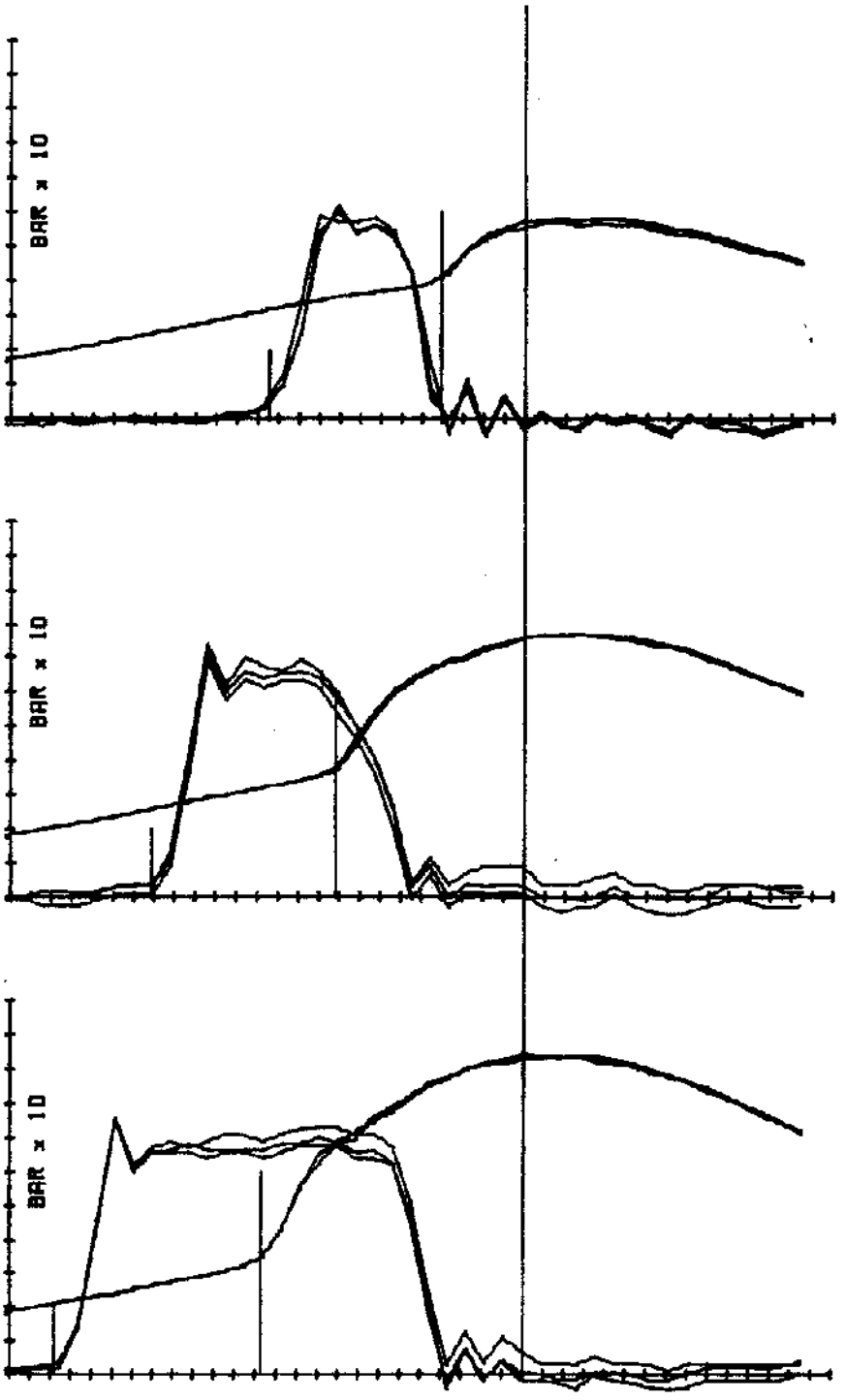


AVERAGE
TORQUE : 34
R.P.M. : 2026
START OF
INJN. : 13.5
COMBN. : 2.1
DELAY
DEGREES : 11.4
mS : .938
MAXIMUM
PRESSURE: 56.1
RATE : 5.3
TEMPERATURES
AIR INLET: 27
EXHAUST : 180

AVERAGE
TORQUE : 90
R.P.M. : 2100
START OF
INJN. : 16.6
COMBN. : 5.5
DELAY
DEGREES : 11.1
mS : .88
MAXIMUM
PRESSURE: 72.2
RATE : 6.9
TEMPERATURES
AIR INLET: 28
EXHAUST : 285

AVERAGE
TORQUE : 136
R.P.M. : 2015
START OF
INJN. : 20.3
COMBN. : 9.8
DELAY
DEGREES : 10.5
mS : .866
MAXIMUM
PRESSURE: 86.8
RATE : 11.5
TEMPERATURES
AIR INLET: 30
EXHAUST : 393

ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : E20/5.2TEGDN C.V. : 38.29 DENSITY : .849
TEST ID. : UNIDO-4	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP13

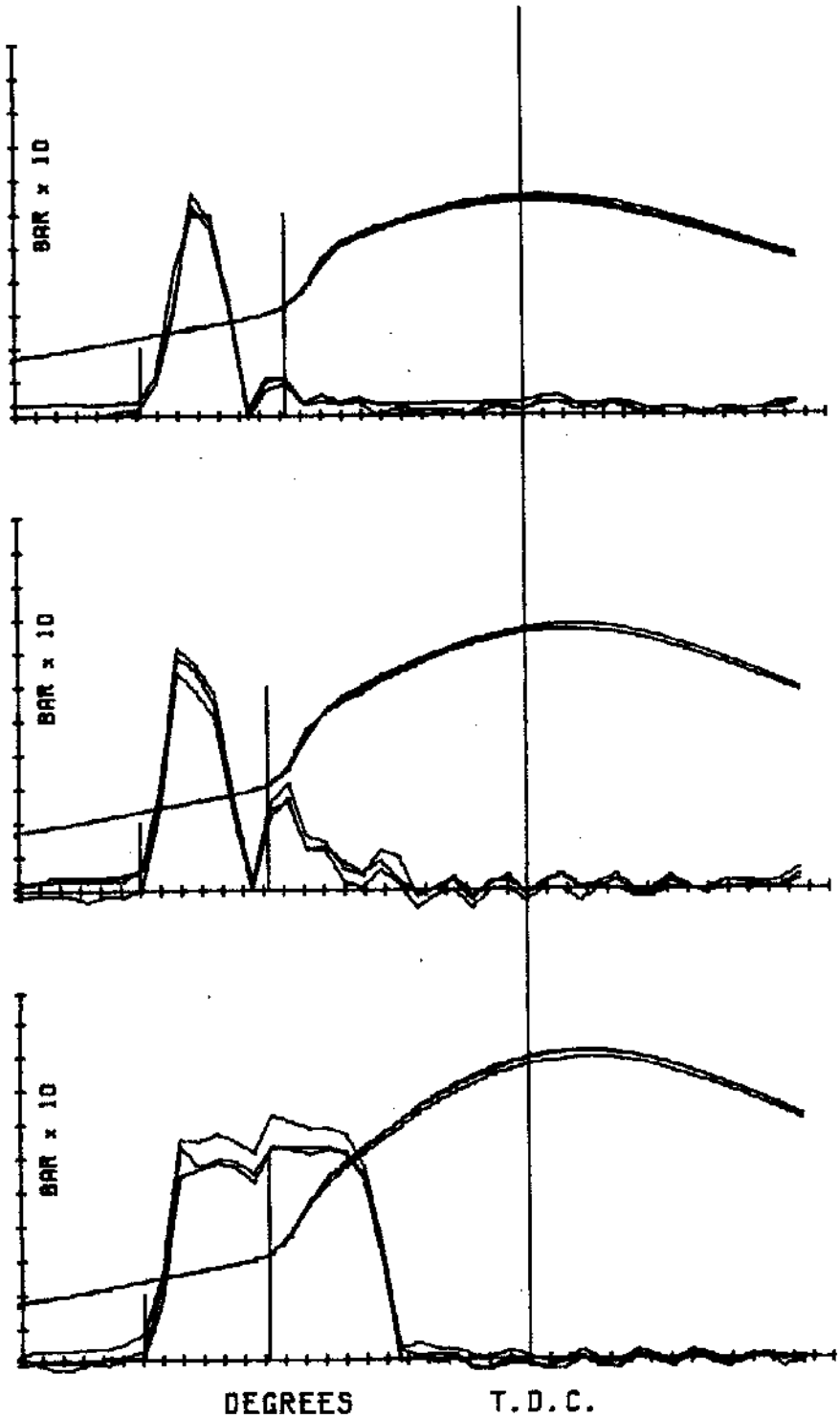


AVERAGE
TORQUE : 35
R.P.M. : 1438
START OF
INJN. : 12.4
COMBN. : 4
DELAY
DEGREES : 8.4
mS : .97
MAXIMUM
PRESSURE: 56.1
RATE : 5.7
TEMPERATURES
AIR INLET: 29
EXHAUST : 152

AVERAGE
TORQUE : 89
R.P.M. : 1443
START OF
INJN. : 16.1
COMBN. : 8.2
DELAY
DEGREES : 8.9
mS : 1.032
MAXIMUM
PRESSURE: 77.3
RATE : 8.8
TEMPERATURES
AIR INLET: 29
EXHAUST : 231

AVERAGE
TORQUE : 148
R.P.M. : 1437
START OF
INJN. : 22.8
COMBN. : 12.7
DELAY
DEGREES : 10.1
mS : 1.169
MAXIMUM
PRESSURE: 94.4
RATE : 12.3
TEMPERATURES
AIR INLET: 31
EXHAUST : 377

ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : E20/5.2TEGDN C.V. : 38.29 DENSITY : .849
TEST ID. : UNIDO-4	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP14

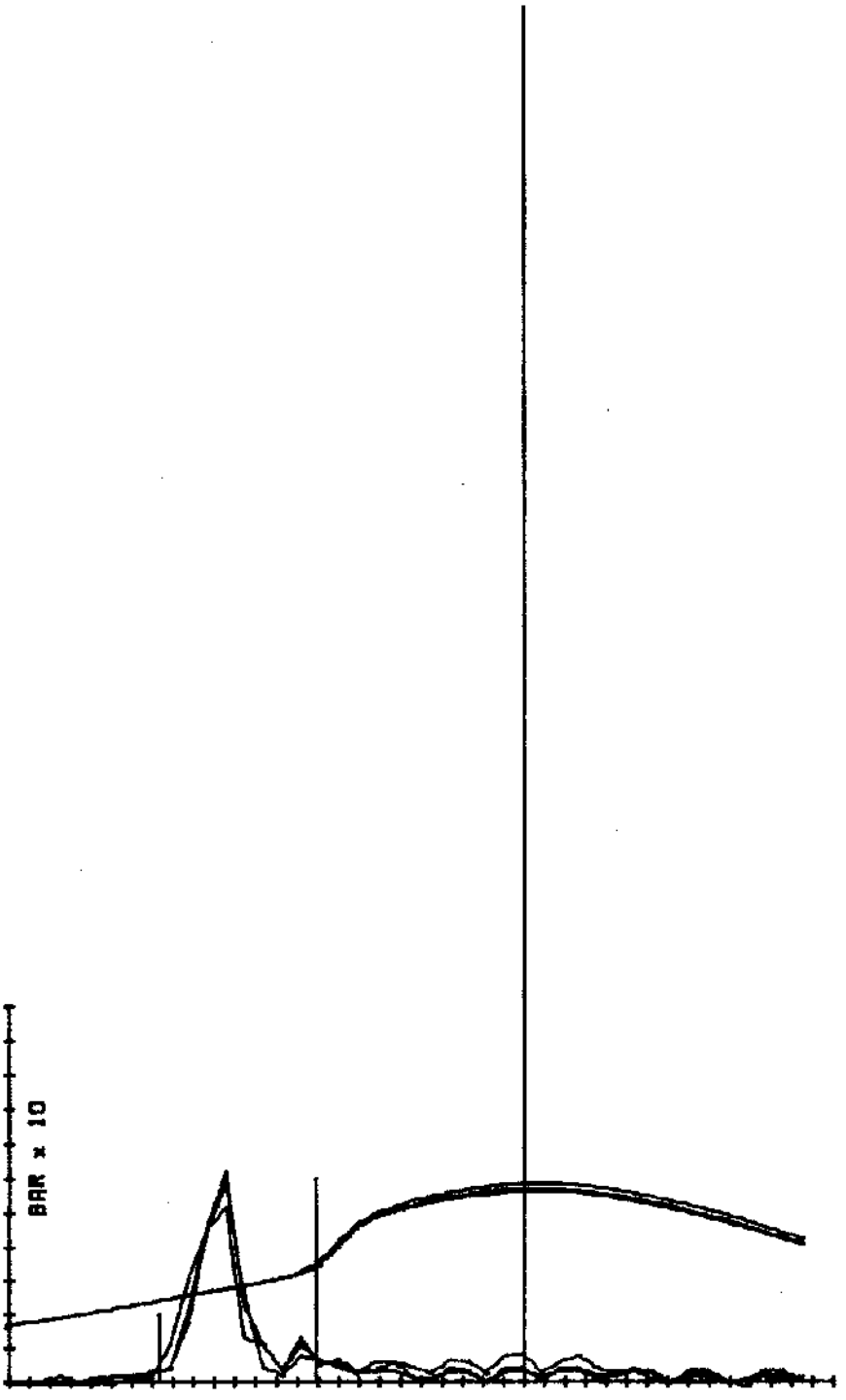


AVERAGE
TORQUE : 37
R.P.M. : 825
START OF
INJN. : 18.8
COMBN. : 11.7
DELAY
DEGREES : 7.1
mS : 1.433
MAXIMUM
PRESSURE: 65
RATE : 6.5
TEMPERATURES
AIR INLET: 28
EXHAUST : 133

AVERAGE
TORQUE : 93
R.P.M. : 829
START OF
INJN. : 19
COMBN. : 12.7
DELAY
DEGREES : 6.3
mS : 1.266
MAXIMUM
PRESSURE: 77.6
RATE : 9.7
TEMPERATURES
AIR INLET: 27
EXHAUST : 198

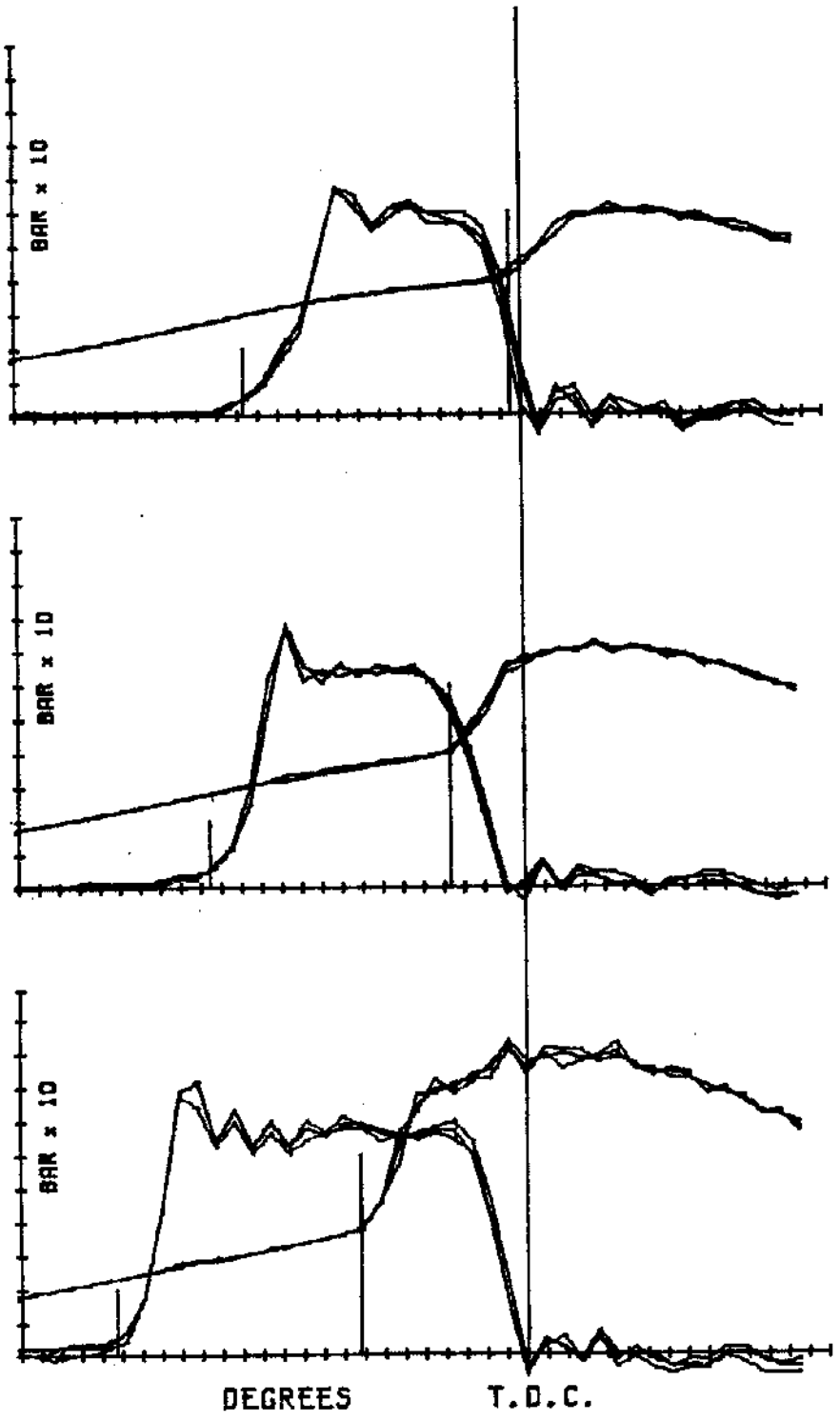
AVERAGE
TORQUE : 147
R.P.M. : 830
START OF
INJN. : 16.8
COMBN. : 12.8
DELAY
DEGREES : 6.1
mS : 1.24
MAXIMUM
PRESSURE: 80.8
RATE : 9.5
TEMPERATURES
AIR INLET: 29
EXHAUST : 315

ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : E20/5.2TEGDN C.V. : 38.29 DENSITY : .849
TEST ID. : UNIDO-4	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP15



AVERAGE
TORQUE : 3
R.P.M. : 827
START OF
INJN. : 17.7
COMBN. : 10.1
DELAY
DEGREES : 7.6
mS : 1.52
MAXIMUM
PRESSURE: 56.5
RATE : 5.7
TEMPERATURES
AIR INLET: 28
EXHAUST : 97

ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : E20/5.2TEGDN C.V. : 38.29 DENSITY : .848
TEST ID. : UNIDO-4	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP16

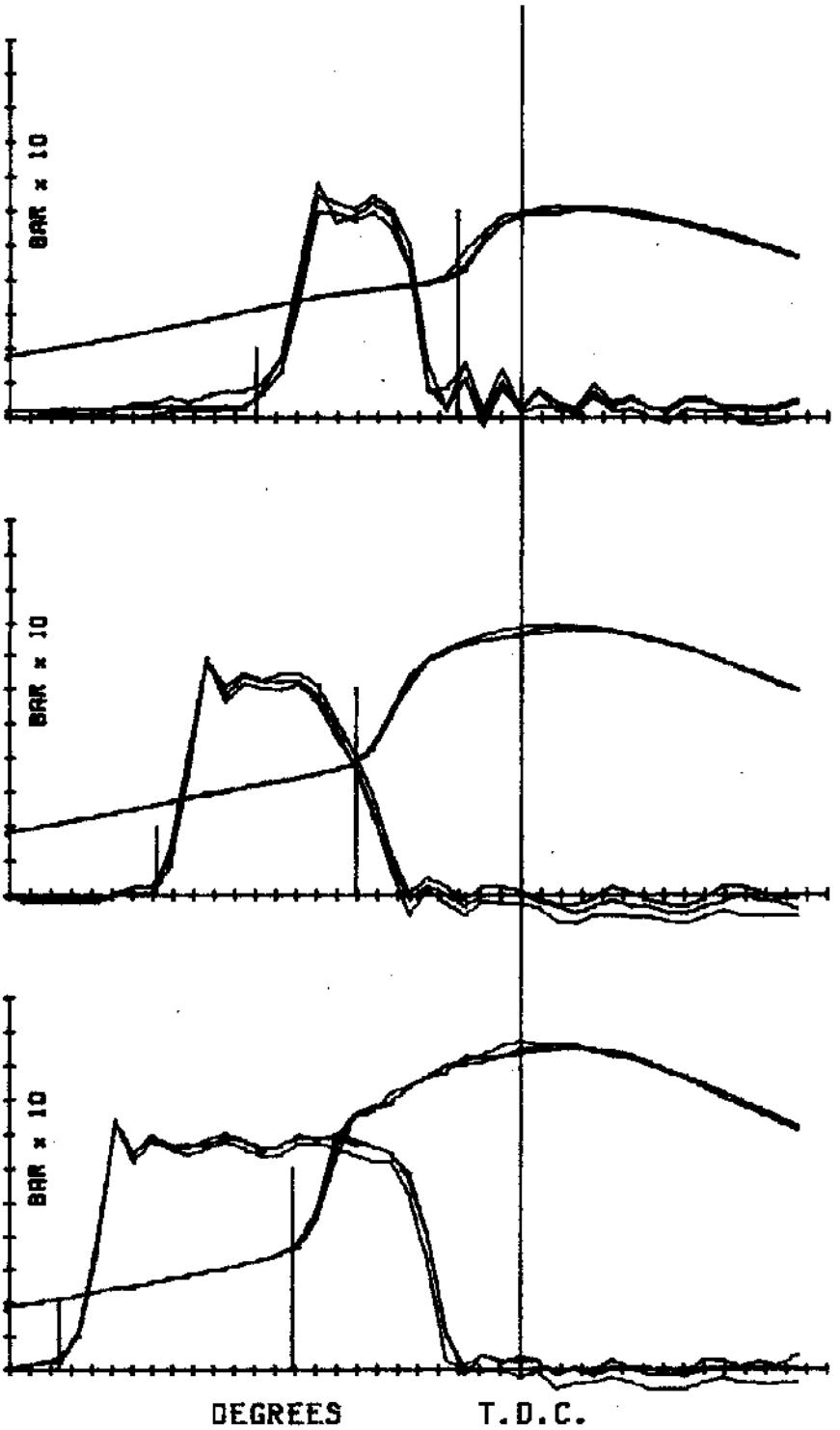


AVERAGE
TORQUE : 38
R.P.M. : 2017
START OF
INJN. : 13.7
COMBN. : .5
DELAY
DEGREES : 13.2
mS : 1.088
MAXIMUM
PRESSURE: 61.3
RATE : 8.2
TEMPERATURES
AIR INLET: 27
EXHAUST : 190

AVERAGE
TORQUE : 87
R.P.M. : 2017
START OF
INJN. : 15.6
COMBN. : 3.7
DELAY
DEGREES : 11.9
mS : .98
MAXIMUM
PRESSURE: 72.3
RATE : 10.4
TEMPERATURES
AIR INLET:30
EXHAUST : 287

AVERAGE
TORQUE : 139
R.P.M. : 2017
START OF
INJN. : 20.3
COMBN. : 8.2
DELAY
DEGREES : 12.1
mS : .997
MAXIMUM
PRESSURE: 82.4
RATE : 17.7
TEMPERATURES
AIR INLET: 34
EXHAUST : 390

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : E20/.210N C.V. : 38 DENSITY : .846
TEST ID. : UNIDO-5	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP17

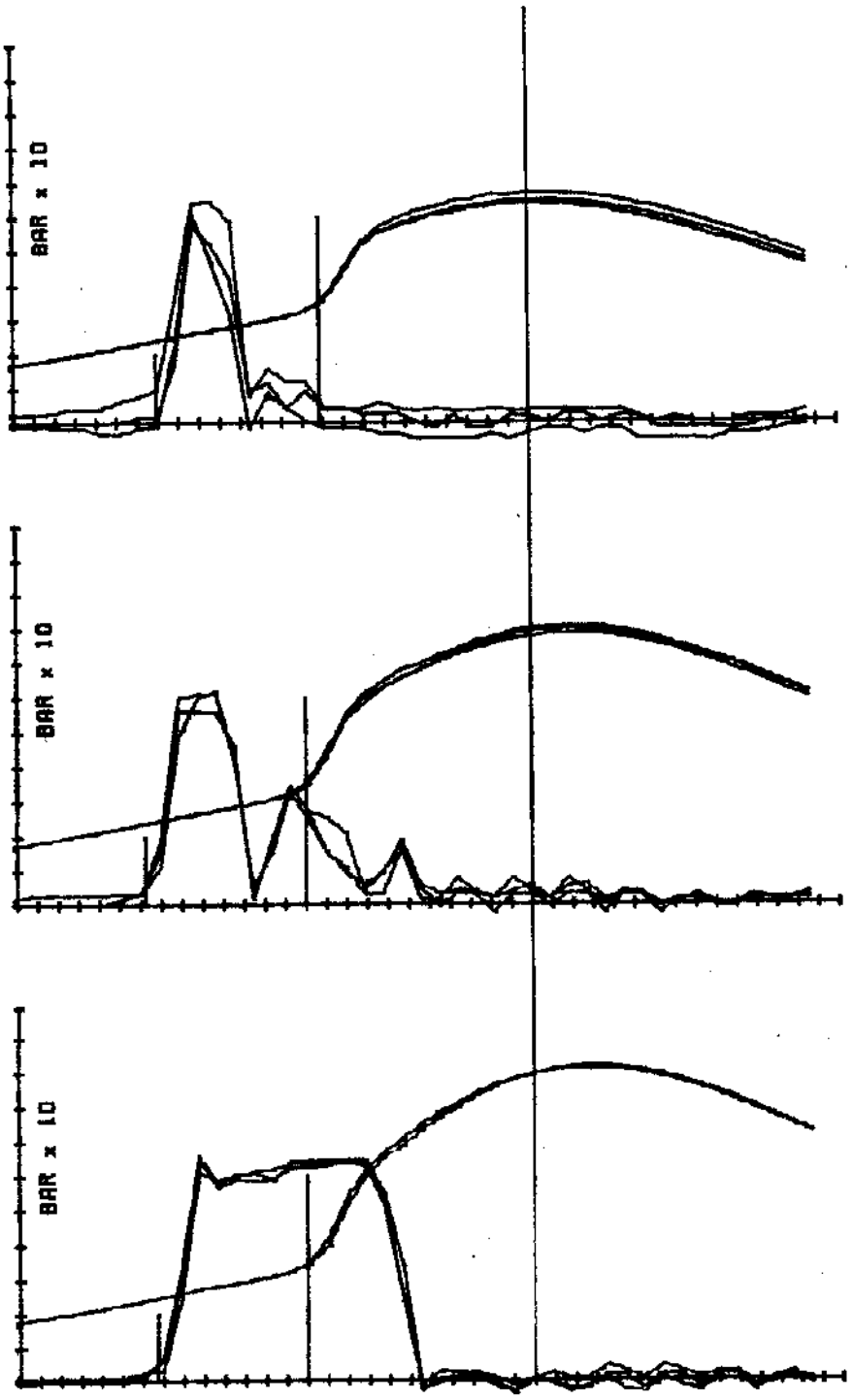


AVERAGE
TORQUE : 35
R.P.M. : 1422
START OF
INJN. : 13
COMBN. : 3.1
DELAY
DEGREES : 9.9
mS : 1.155
MAXIMUM
PRESSURE: 61
RATE : 7.7
TEMPERATURES
AIR INLET: 28
EXHAUST : 151

AVERAGE
TORQUE : 88
R.P.M. : 1436
START OF
INJN. : 17.8
COMBN. : 8.1
DELAY
DEGREES : 9.7
mS : 1.13
MAXIMUM
PRESSURE: 78.8
RATE : 10.8
TEMPERATURES
AIR INLET: 28
EXHAUST : 224

AVERAGE
TORQUE : 147
R.P.M. : 1458
START OF
INJN. : 22.6
COMBN. : 11.1
DELAY
DEGREES : 11.5
mS : 1.312
MAXIMUM
PRESSURE: 98.3
RATE : 18.8
TEMPERATURES
AIR INLET: 30
EXHAUST : 378

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : E20/.210N C.V. : 36 DENSITY : .846
TEST ID. : UNIDO-5	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP18

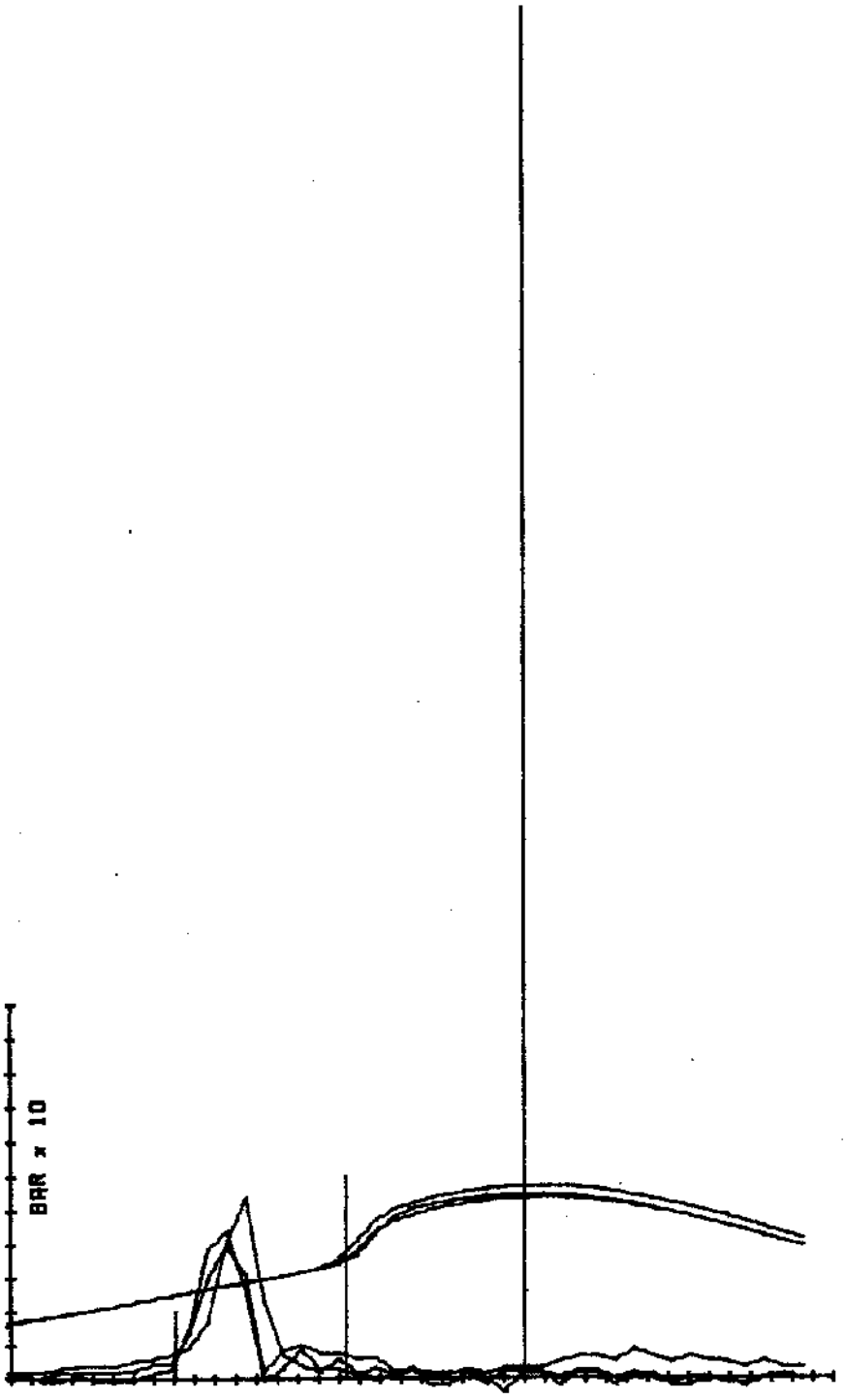


AVERAGE
TORQUE : 38
R.P.M. : 827
START OF
INJN. : 16.1
COMBN. : 10.1
DELAY
DEGREES : 6
mS : 1.599
MAXIMUM
PRESSURE: 65.6
RATE : 6.9
TEMPERATURES
AIR INLET: 27
EXHAUST : 128

AVERAGE
TORQUE : 93
R.P.M. : 832
START OF
INJN. : 16.6
COMBN. : 11
DELAY
DEGREES : 7.6
mS : 1.565
MAXIMUM
PRESSURE: 79.5
RATE : 10.3
TEMPERATURES
AIR INLET:30
EXHAUST : 201

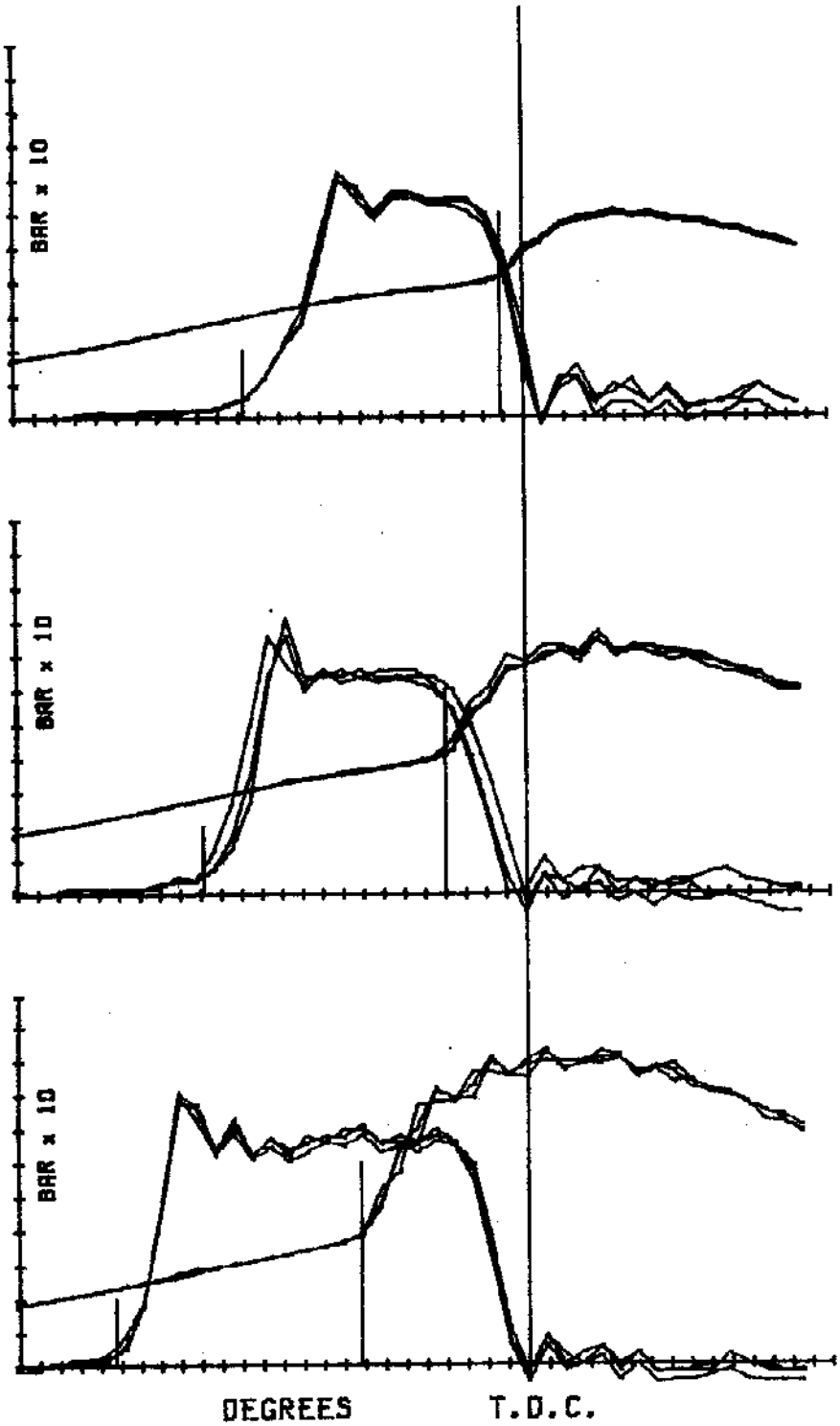
AVERAGE
TORQUE : 149
R.P.M. : 838
START OF
INJN. : 16.3
COMBN. : 11
DELAY
DEGREES : 7.3
mS : 1.439
MAXIMUM
PRESSURE: 91.5
RATE : 11
TEMPERATURES
AIR INLET: 28
EXHAUST : 317

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : E20/.210N C.V. : 38 DENSITY : .846
TEST ID. : UNIDO-5	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP19



AVERAGE
TORQUE : 3
R.P.M. : 821
START OF
INJN. : 16.8
COMBN. : 6.7
DELAY
DEGREES : 6.2
mS : 1.878
MAXIMUM
PRESSURE: 55.6
RATE : 6.5
TEMPERATURES
AIR INLET: 27
EXHAUST : 94

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : E20/.21ON C.V. : 38 DENSITY : .846
TEST ID. : UNIDO-5	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP20

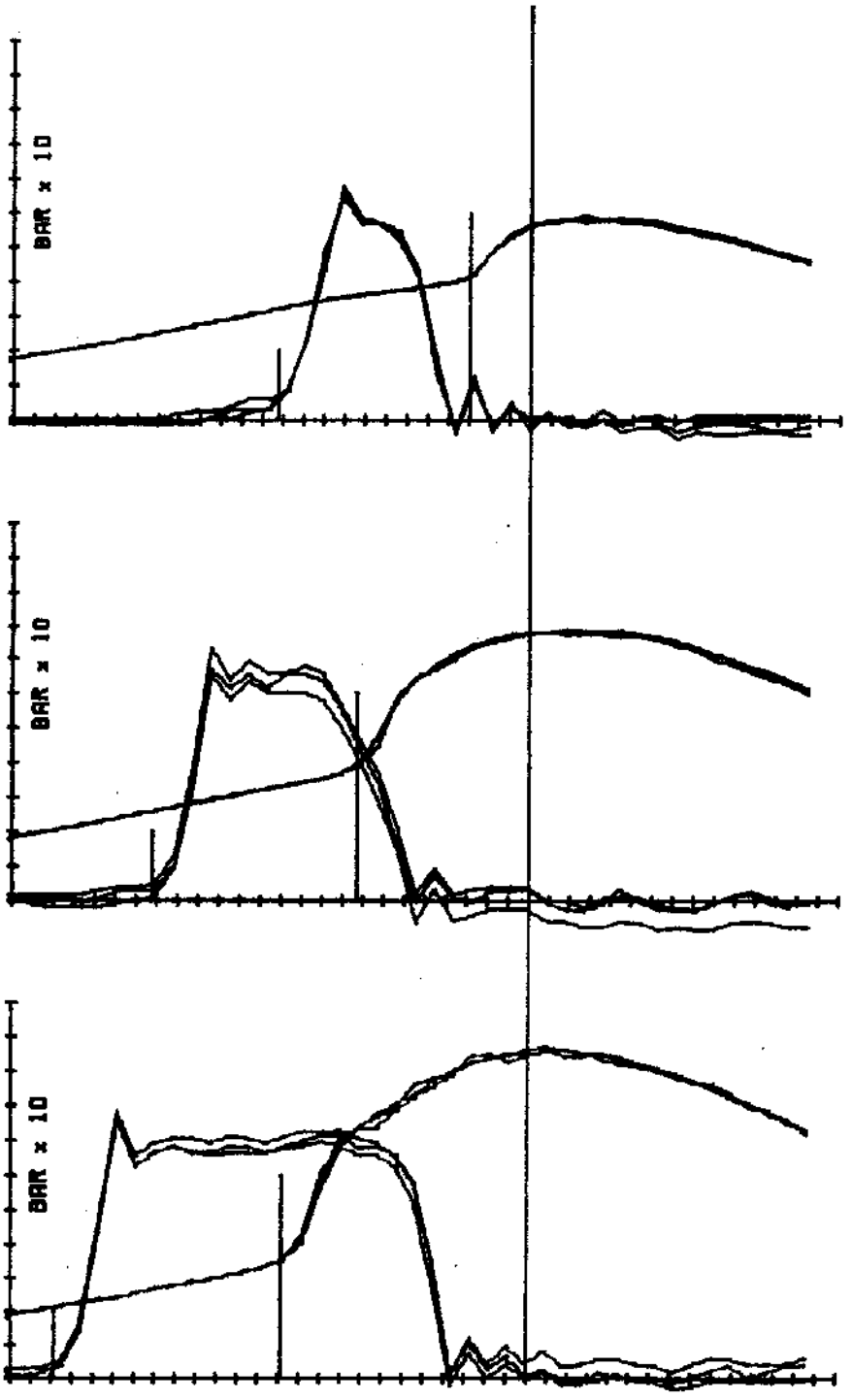


AVERAGE
TORQUE : 34
R.P.M. : 2042
START OF
INJN. : 13.7
COMBN. : 1.1
DELAY
DEGREES : 12.8
mS : 1.026
MAXIMUM
PRESSURE: 60.5
RATE : 6.8
TEMPERATURES
AIR INLET: 26
EXHAUST : 167

AVERAGE
TORQUE : 69
R.P.M. : 2041
START OF
INJN. : 15.8
COMBN. : 4
DELAY
DEGREES : 11.8
mS : .966
MAXIMUM
PRESSURE: 74.5
RATE : 8.8
TEMPERATURES
AIR INLET: 28
EXHAUST : 289

AVERAGE
TORQUE : 138
R.P.M. : 2015
START OF
INJN. : 20.3
COMBN. : 6.2
DELAY
DEGREES : 12.1
mS : .998
MAXIMUM
PRESSURE: 91.8
RATE : 16.4
TEMPERATURES
AIR INLET: 27
EXHAUST : 365

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : E20/.4ION C.V. : 38 DENSITY : .846
TEST ID. : UNIDO-6	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP21

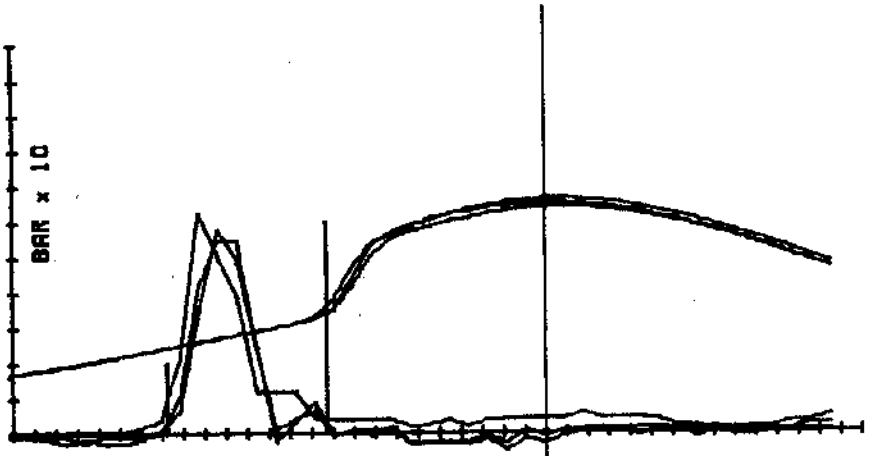


AVERAGE
TORQUE : 35
R.P.M. : 1438
START OF
INJN. : 12.2
COMBN. : 2.9
DELAY
DEGREES : 9.3
mS : 1.074
MAXIMUM
PRESSURE: 59.1
RATE : 7
TEMPERATURES
AIR INLET: 20
EXHAUST : 146

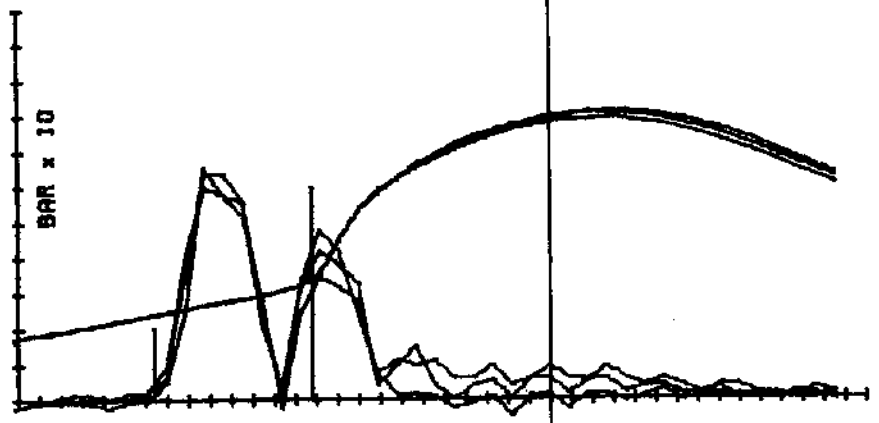
AVERAGE
TORQUE : 90
R.P.M. : 1443
START OF
INJN. : 16.2
COMBN. : 6.3
DELAY
DEGREES : 9.9
mS : 1.148
MAXIMUM
PRESSURE: 78.7
RATE : 10.8
TEMPERATURES
AIR INLET: 27
EXHAUST : 227

AVERAGE
TORQUE : 148
R.P.M. : 1437
START OF
INJN. : 22.9
COMBN. : 11.9
DELAY
DEGREES : 11
mS : 1.276
MAXIMUM
PRESSURE: 98.9
RATE : 15.7
TEMPERATURES
AIR INLET: 30
EXHAUST : 375

ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : E20/.4ION C.V. : 36 DENSITY : .846
TEST ID. : UNIDO-6	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP22



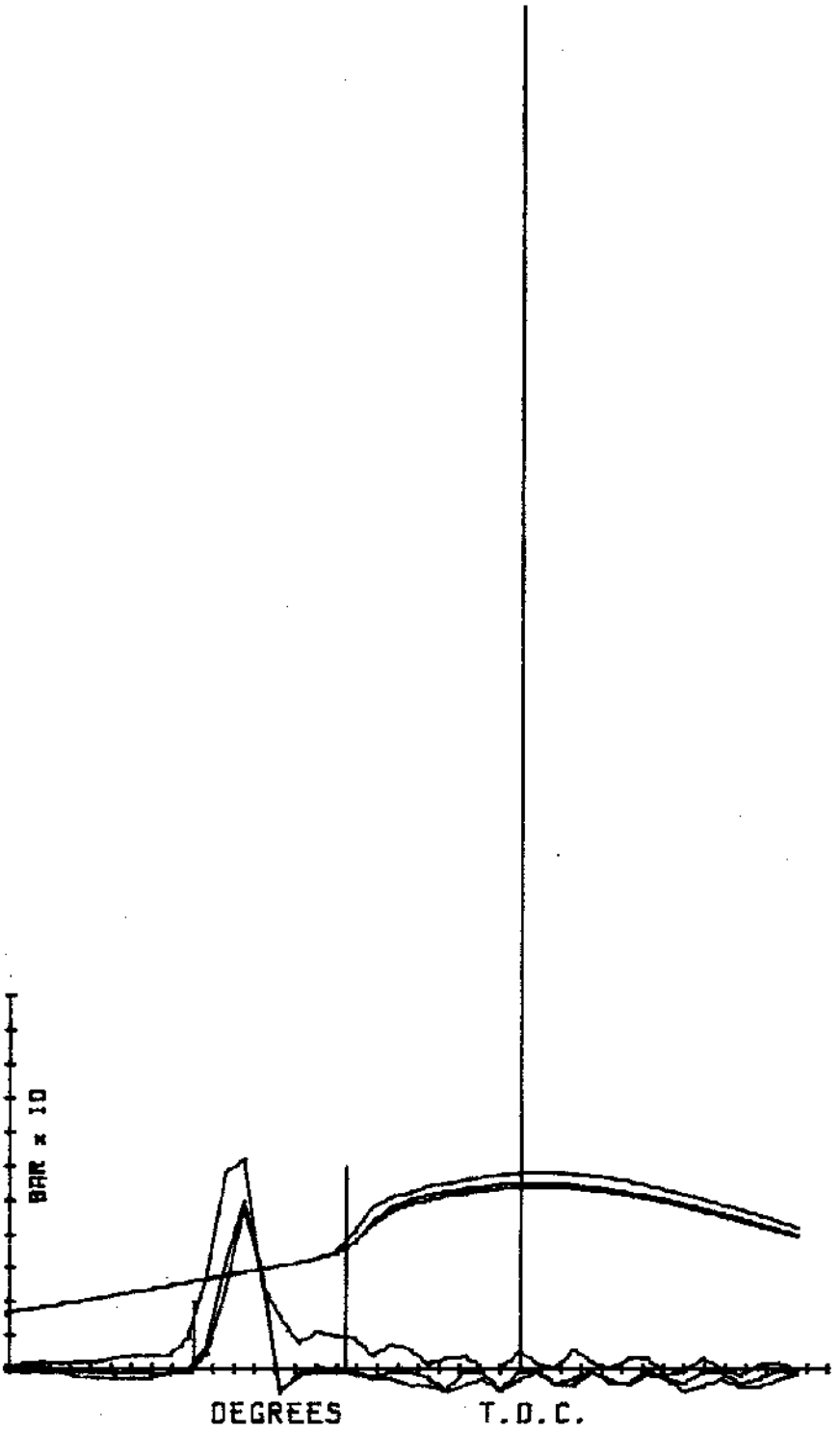
AVERAGE
TORQUE : 37
R.P.M. : 633
START OF
INJN. : 17.7
COMBN. : 10.3
DELAY
DEGREES : 7.4
mS : 1.496
MAXIMUM
PRESSURE: 65.5
RATE : 9.1
TEMPERATURES
AIR INLET: 27
EXHAUST : 128



AVERAGE
TORQUE : 91
R.P.M. : 823
START OF
INJN. : 18.8
COMBN. : 11.2
DELAY
DEGREES : 7.4
mS : 1.492
MAXIMUM
PRESSURE: 80.9
RATE : 9.1
TEMPERATURES
AIR INLET: 27
EXHAUST : 209

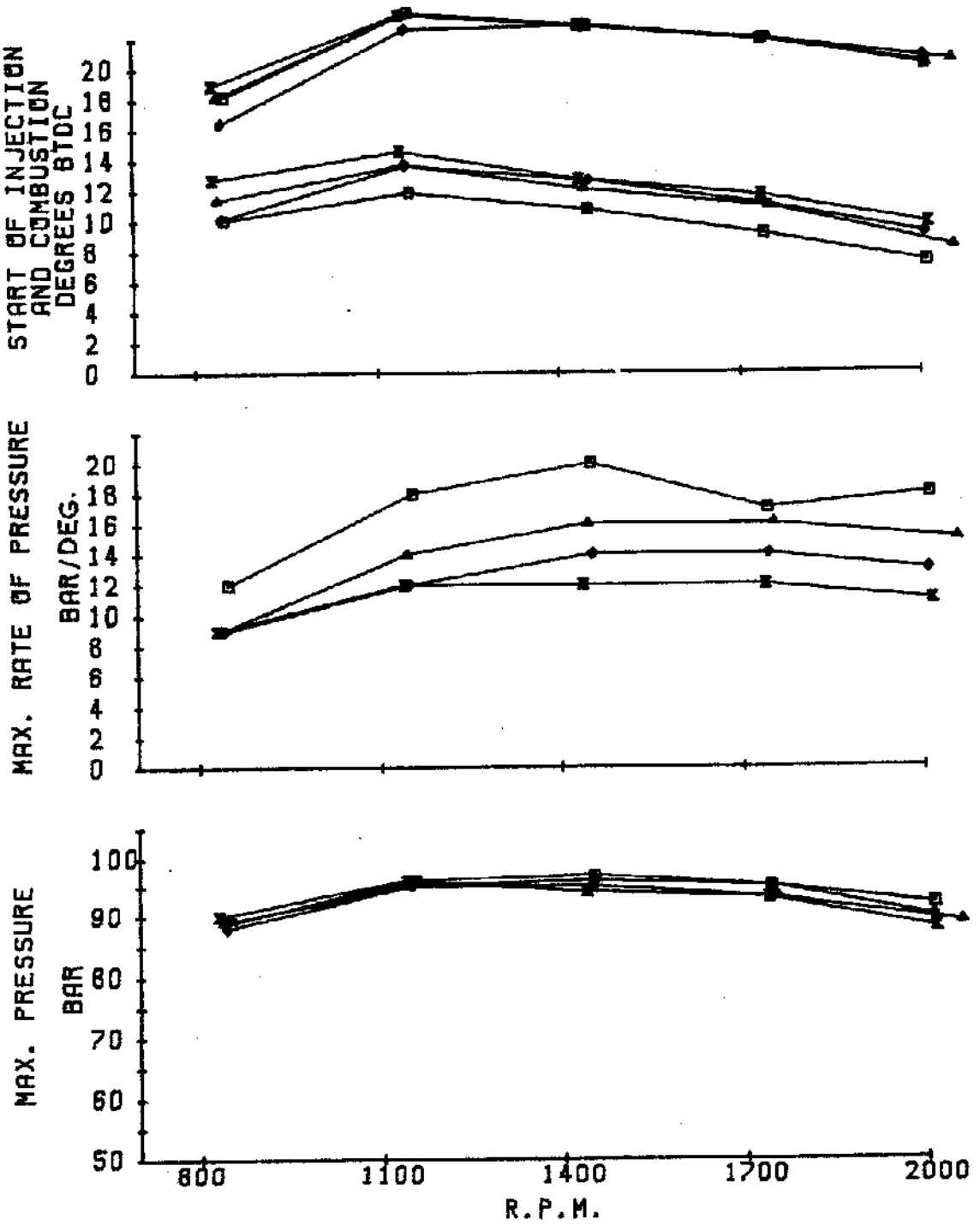
AVERAGE
TORQUE : 149
R.P.M. : 836
START OF
INJN. : 16.3
COMBN. : 11
DELAY
DEGREES : 7.3
mS : 1.446
MAXIMUM
PRESSURE: 91.3
RATE : 11.6
TEMPERATURES
AIR INLET:30
EXHAUST : 313

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : E20/.4ION C.V. : 38 DENSITY : .846
TEST ID. : UNIDO-6	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP23

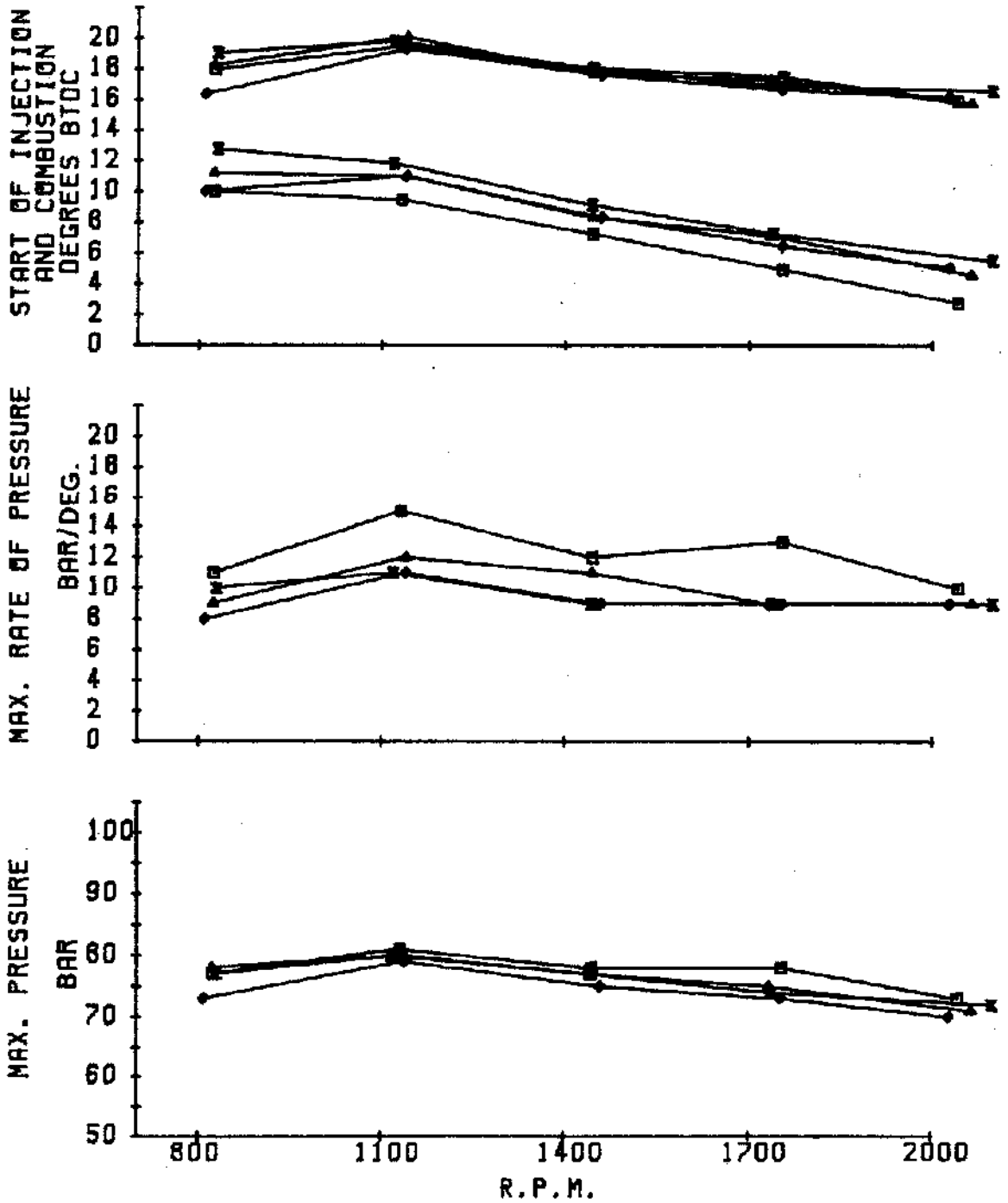


AVERAGE
TORQUE : 3
R.P.M. : 822
START OF
INJN. : 15.8
COMBN. : 8.5
DELAT
DEGREES : 7.4
m5 : 1.495
MAXIMUM
PRESSURE: 55.2
RATE : 8.2
TEMPERATURES
AIR INLET: 26
EXHAUST : 92

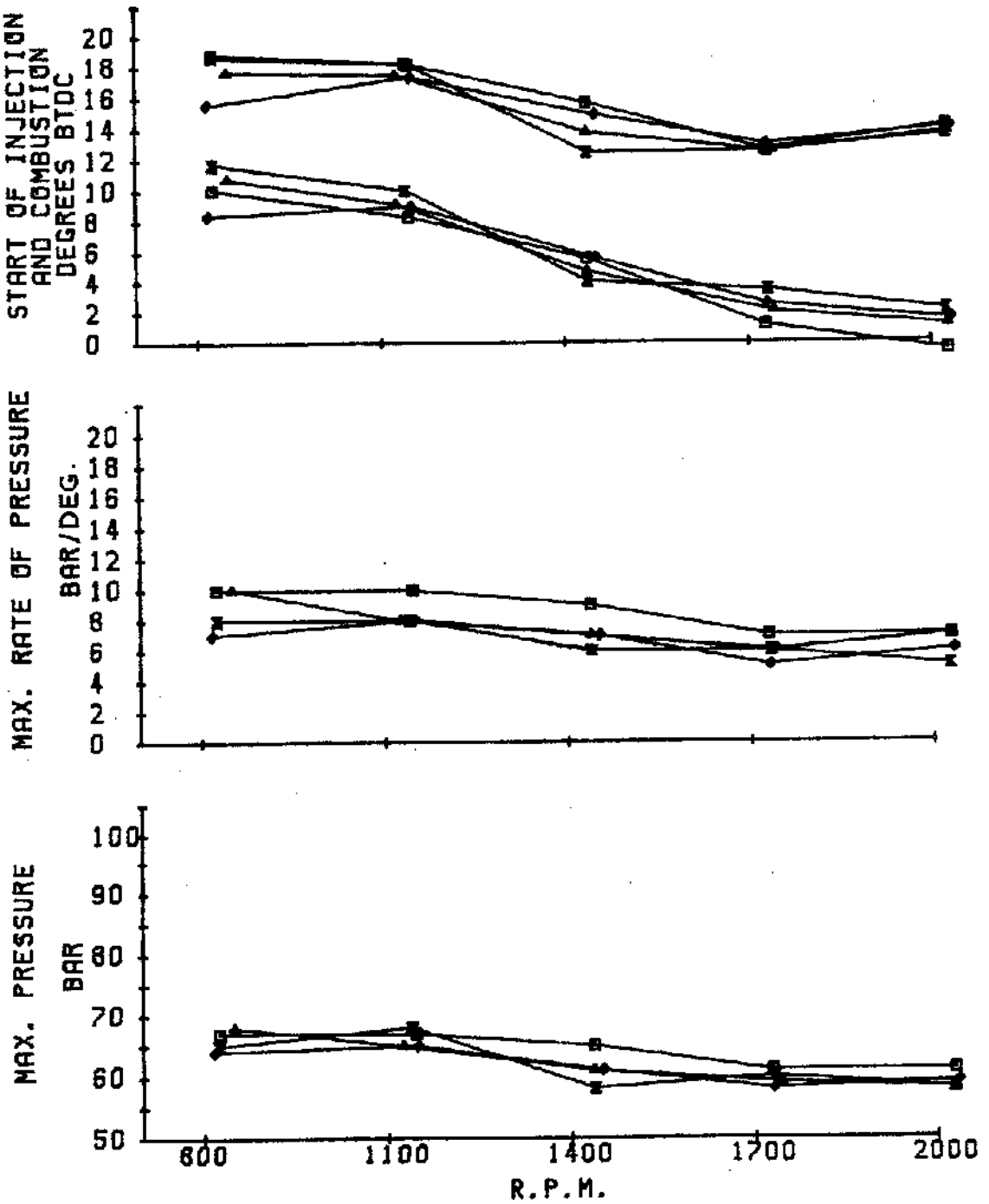
ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : E20/.41ON C.V. : 38 DENSITY : .846
TEST ID. : UNIDO-6	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP24



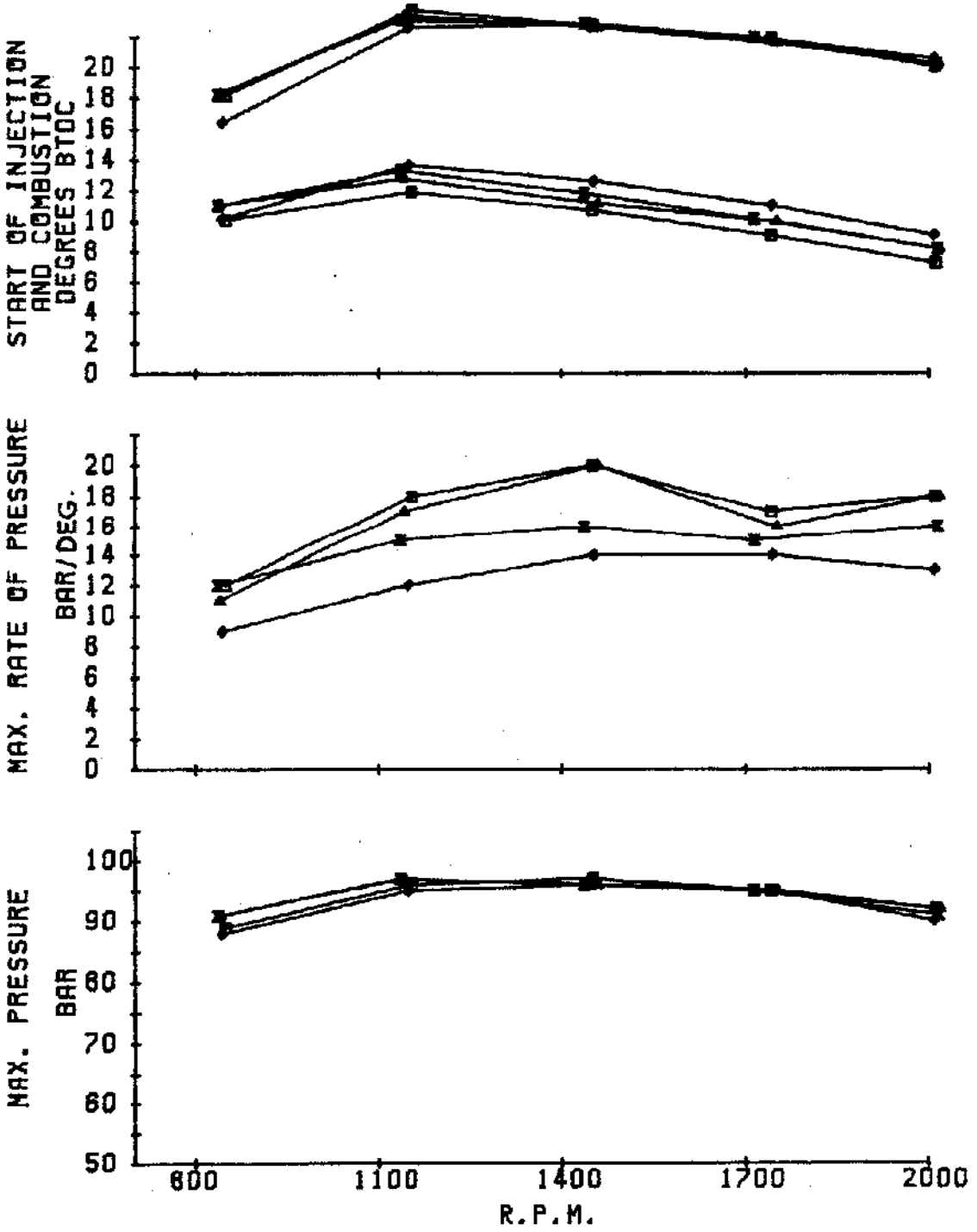
ENGINE : FORD 3000 CAPACITY: 2660	• DIST 100 ▫ E20 ▲ E20/2.6TEGDN × E20/5.2TEGDN FULL LOAD
EFFECT OF TEGDN ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	FIG AP25



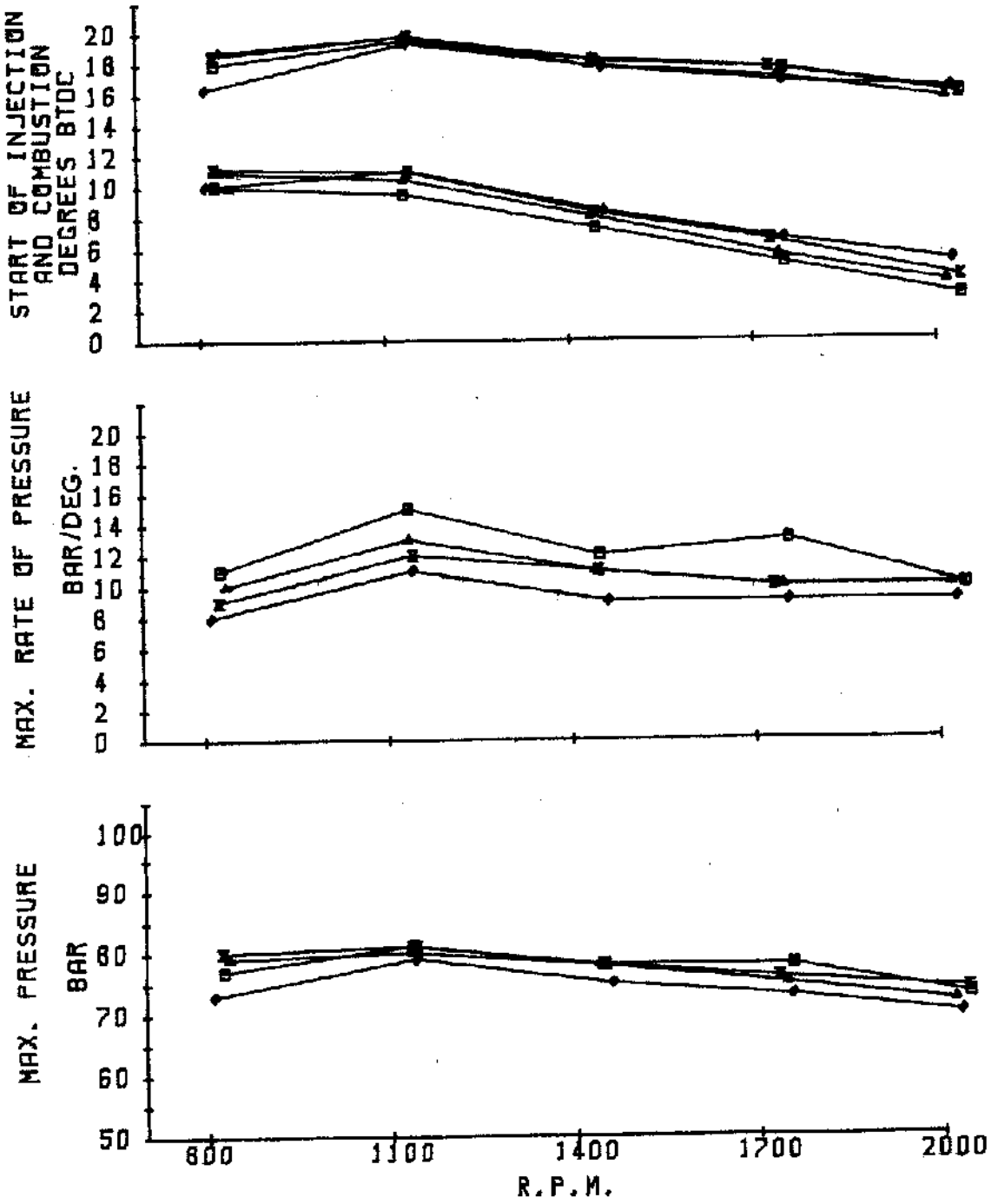
ENGINE : FORD 3000 CAPACITY: 2860	● DIST 100 ■ E20 ▲ E20/2.6TEGDN ✕ E20/5.2TEGDN 2/3 LOAD
EFFECT OF TEGDN ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	FIG AP26



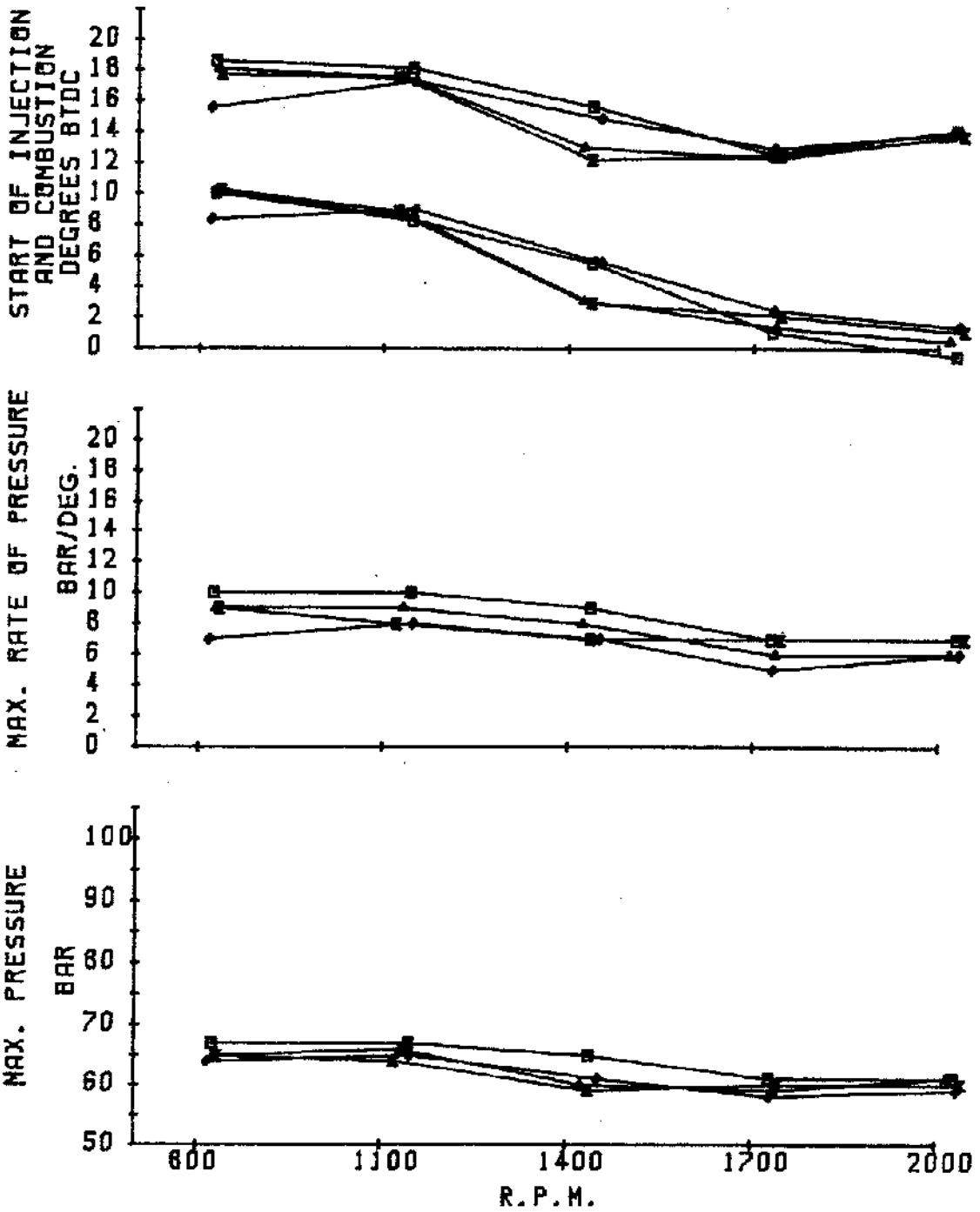
ENGINE : FORD 3000 CAPACITY: 2860	◆ DIST 100 ■ E20 ▲ E20/2.6TEGDN ✕ E20/5.2TEGDN 1/3 LOAD
EFFECT OF TEGDN ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	FIG AP27



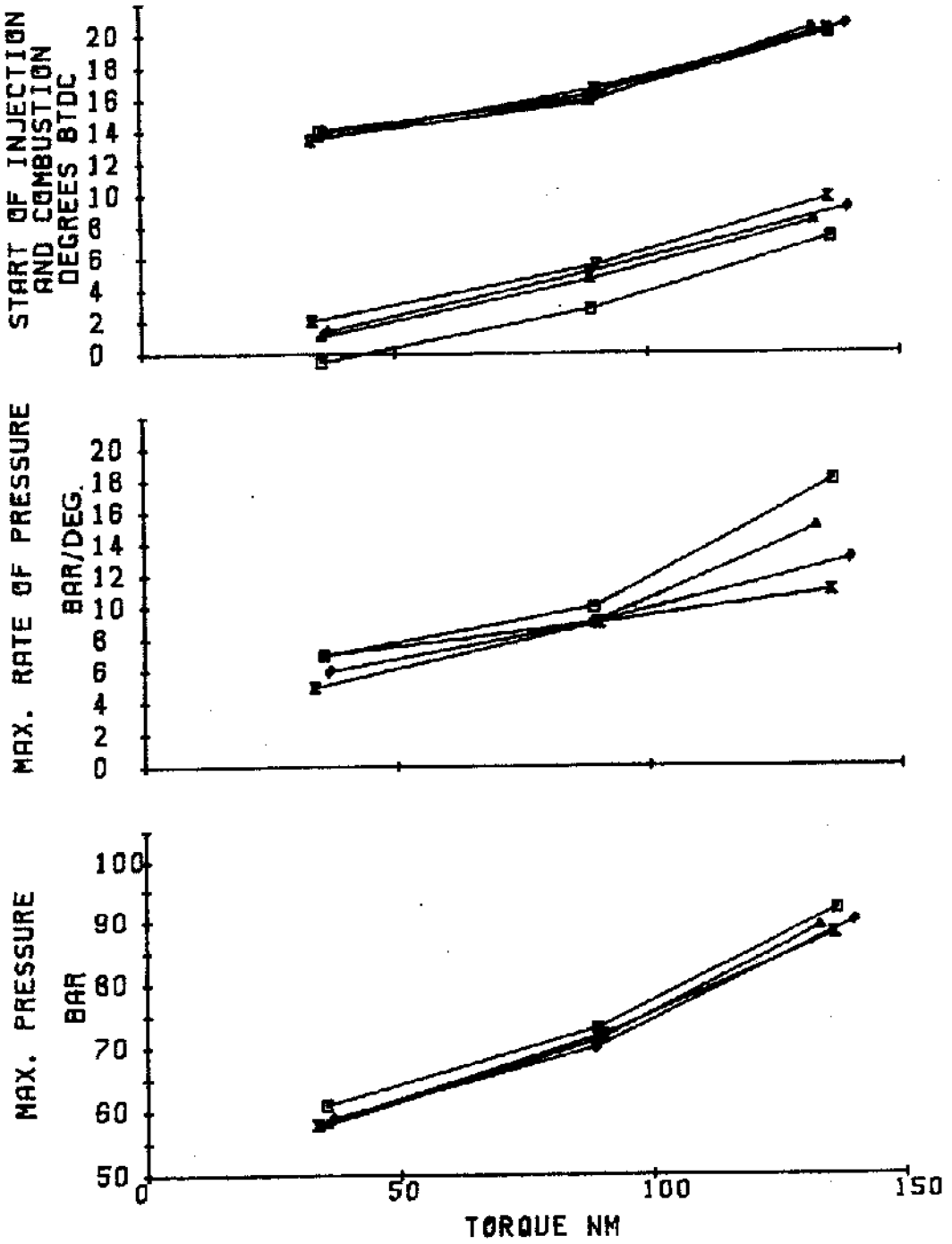
ENGINE : FORD 3000 CAPACITY: 2860	◆ DIST 100 ■ E20 ▲ E20/.21ON ✖ E20/.41ON FULL LOAD
EFFECT OF ION ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	FIG AP28



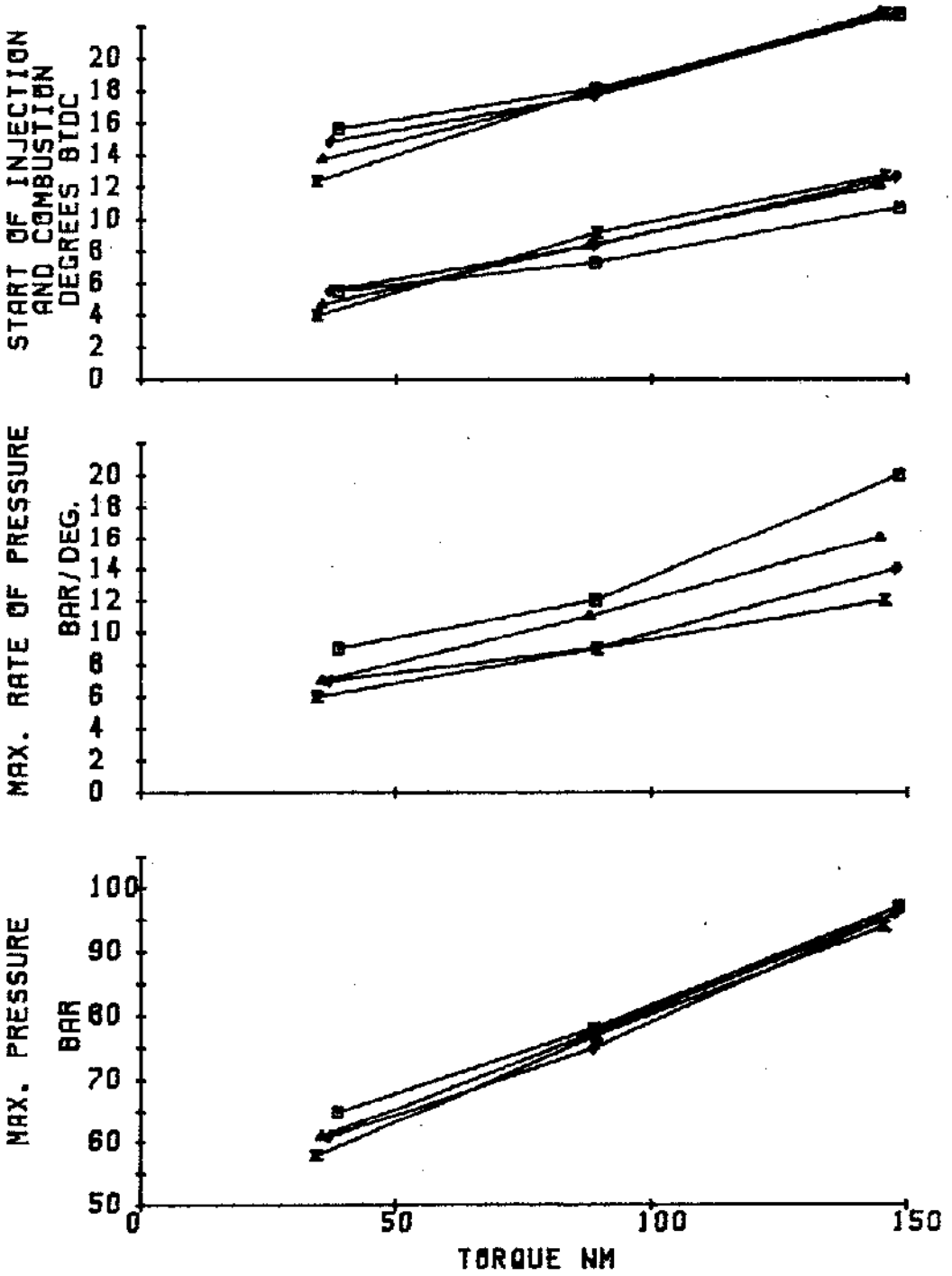
ENGINE : FORD 3000 CAPACITY: 2660	◆ DIST 100 ■ E20 ▲ E20/.2ION ✕ E20/.4ION 2/3 LOAD
EFFECT OF ION ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	FIG AP29



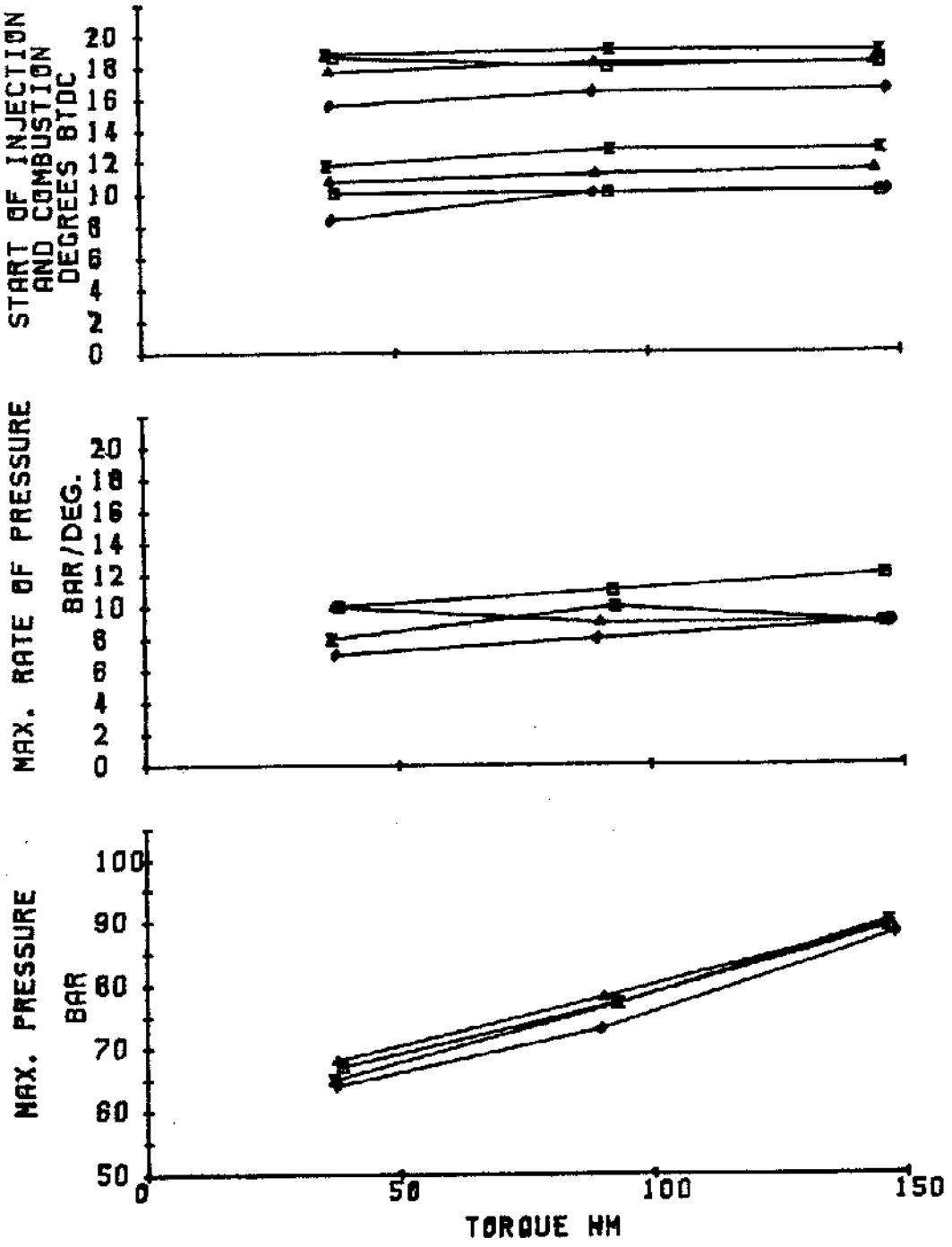
ENGINE : FORD 3000 CAPACITY: 2660	◆ DIST 100 ■ E20 ▲ E20/.21ON ✕ E20/.41ON 1/3 LOAD
EFFECT OF ION ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	FIG AP30



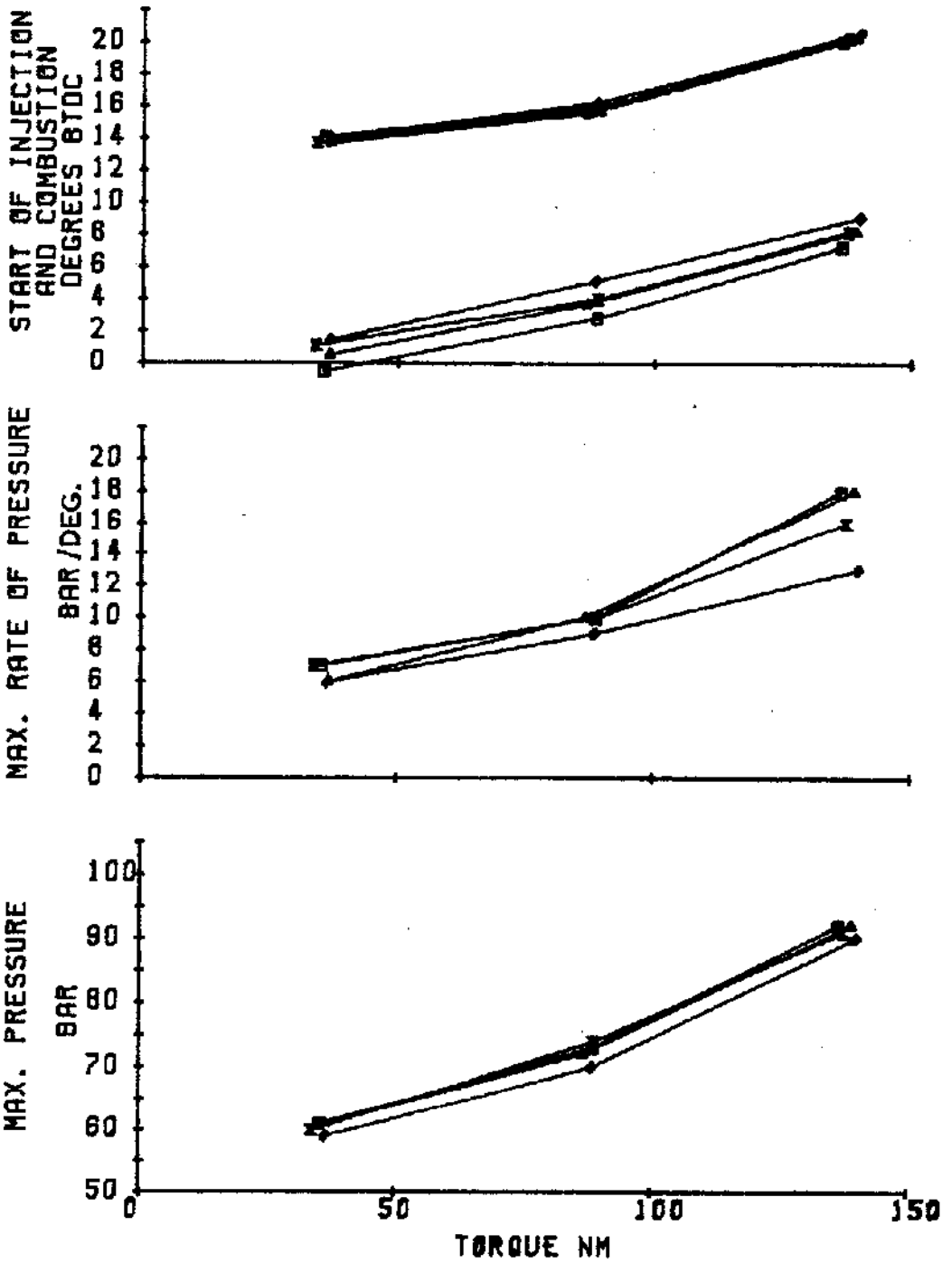
ENGINE : FORD 3000 CAPACITY: 2860	• DIST 100 ■ E20 ▲ E20/2.6TEGDN ⧗ E20/5.2TEGDN 2000 R.P.M.
EFFECT OF TEGDN ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	FIG AP31



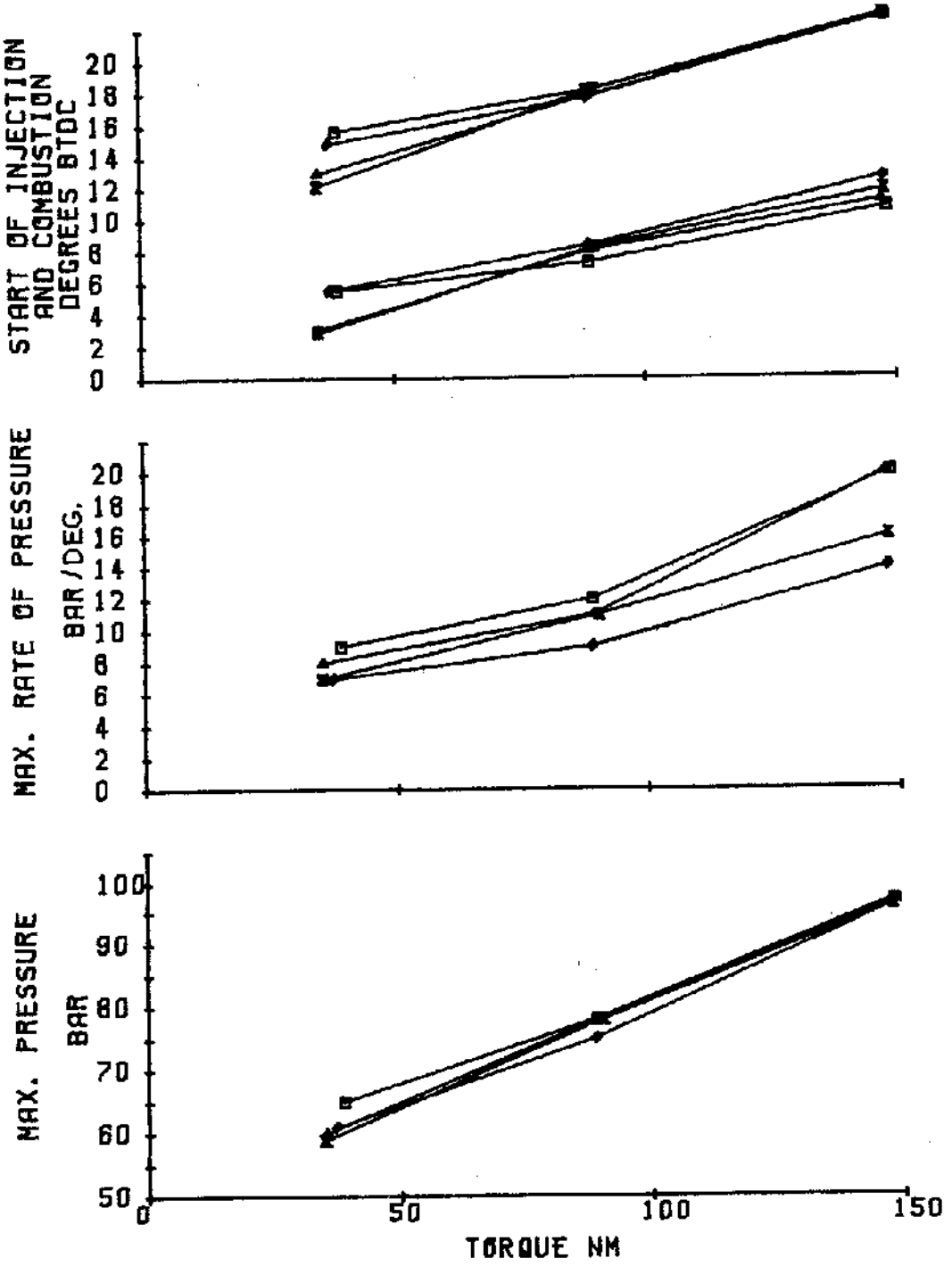
ENGINE : FORD 3000 CAPACITY: 2660	♦ DIST 100 ■ E20 ▲ E20/2.6TEGDN ⧗ E20/5.2TEGDN 1400 R.P.M.
EFFECT OF TEGDN ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	FIG AP32



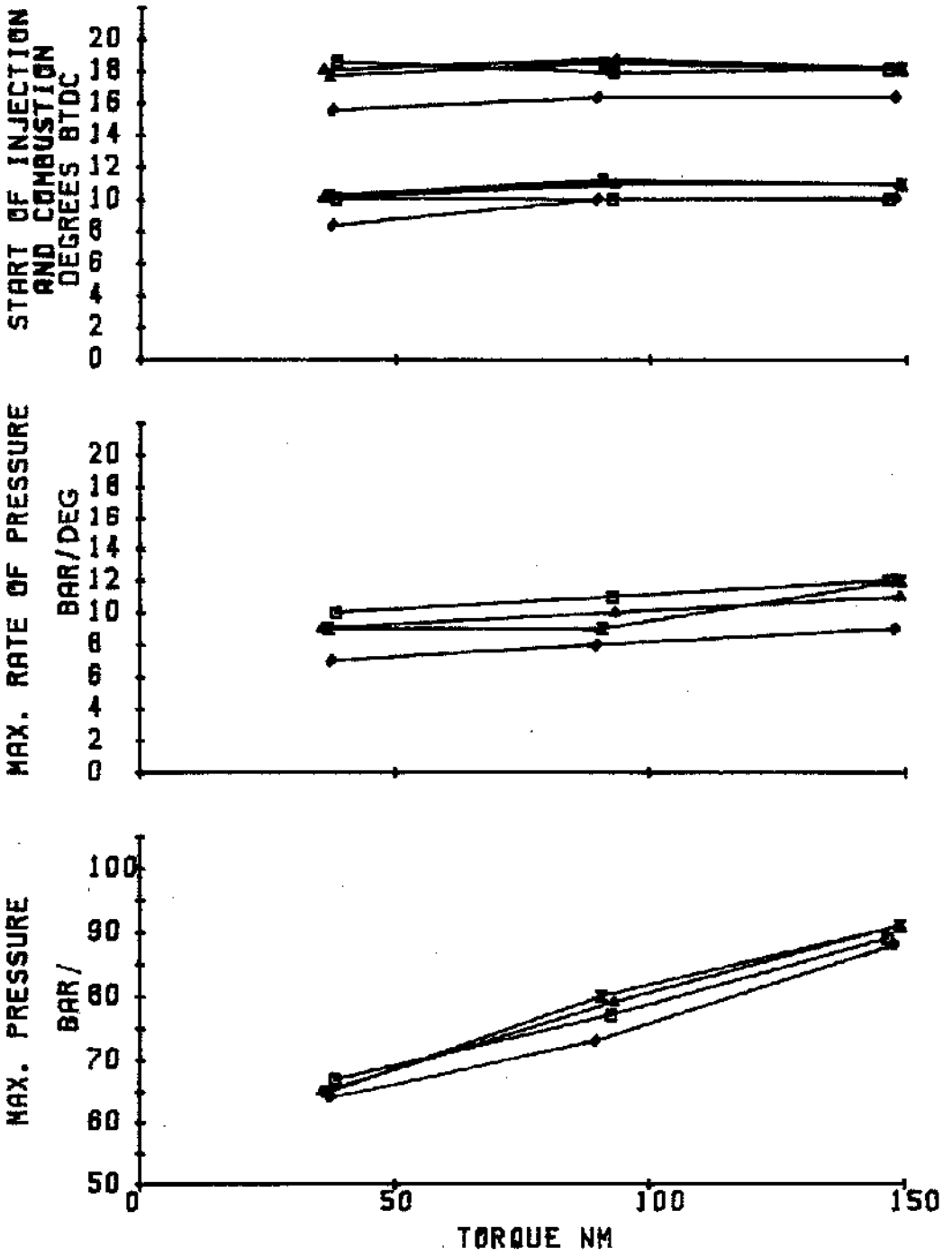
ENGINE : FORD 3000 CAPACITY: 2660	• DIST 100 ▪ E20 ▲ E20/2.6TEGDN ⧗ E20/5.2TEGDN 800 R.P.M.
EFFECT OF TEGDN ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	FIG AP33



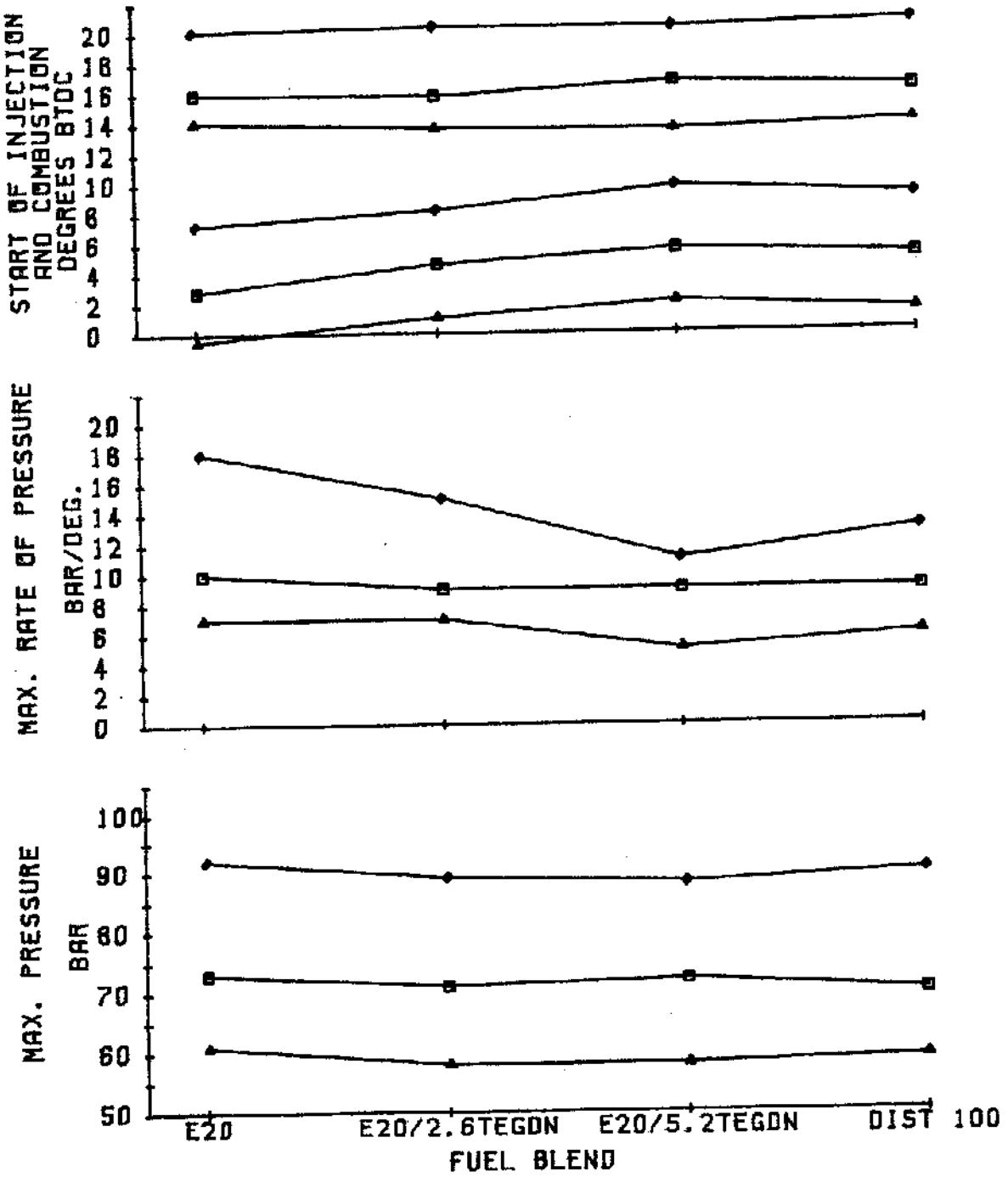
ENGINE : FORD 3000 CAPACITY: 2660	• DIST 100 ▪ E20 ▲ E20/.21ON ✕ E20/.41ON 2000 R.P.M.
EFFECT OF ION ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	FIG AP34



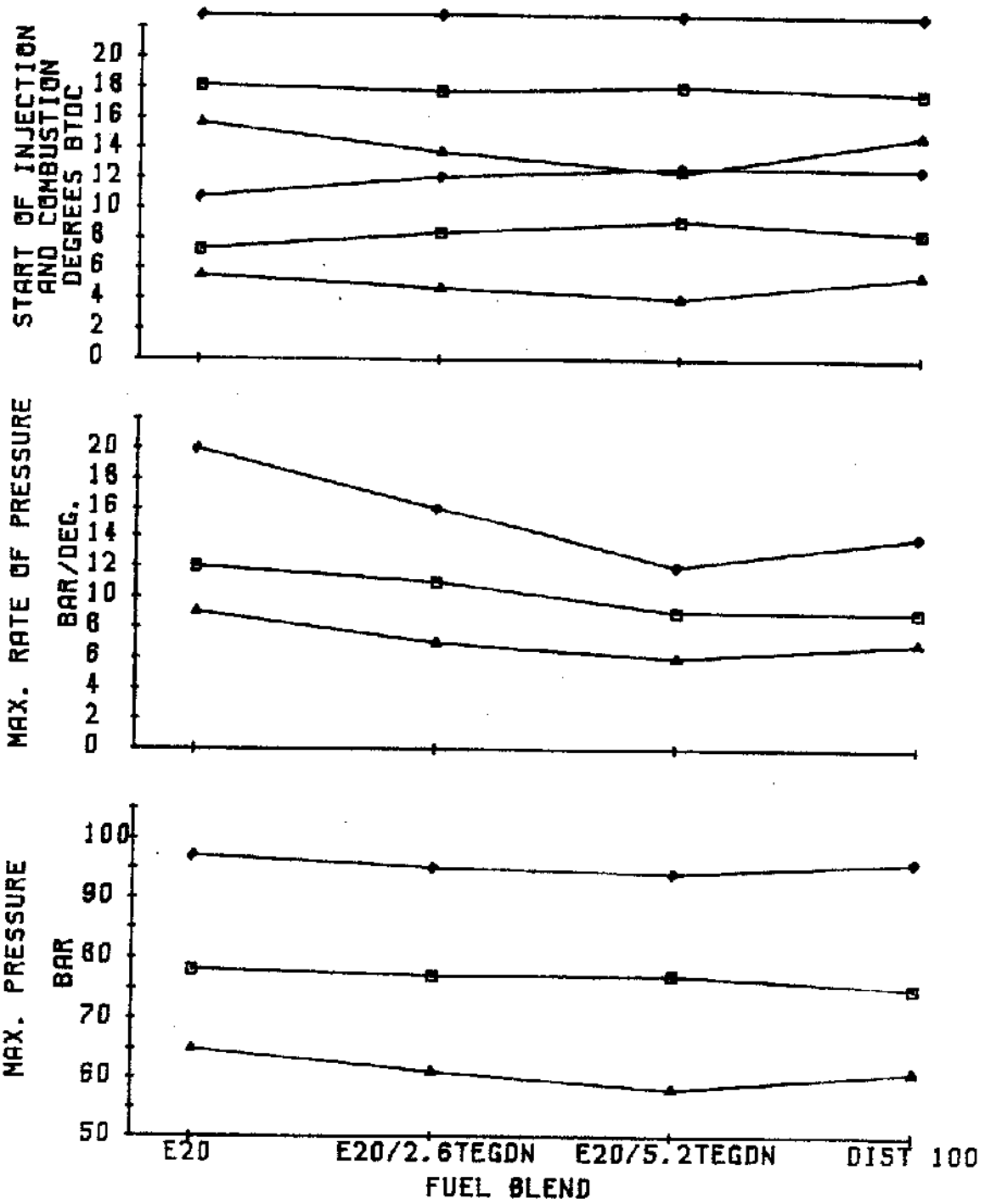
ENGINE : FORD 3000 CAPACITY: 2860	♦ DIST 100 ■ E20 ▲ E20/.2ION ✖ E20/.4ION 1400 R.P.M.
EFFECT OF ION ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	FIG AP35



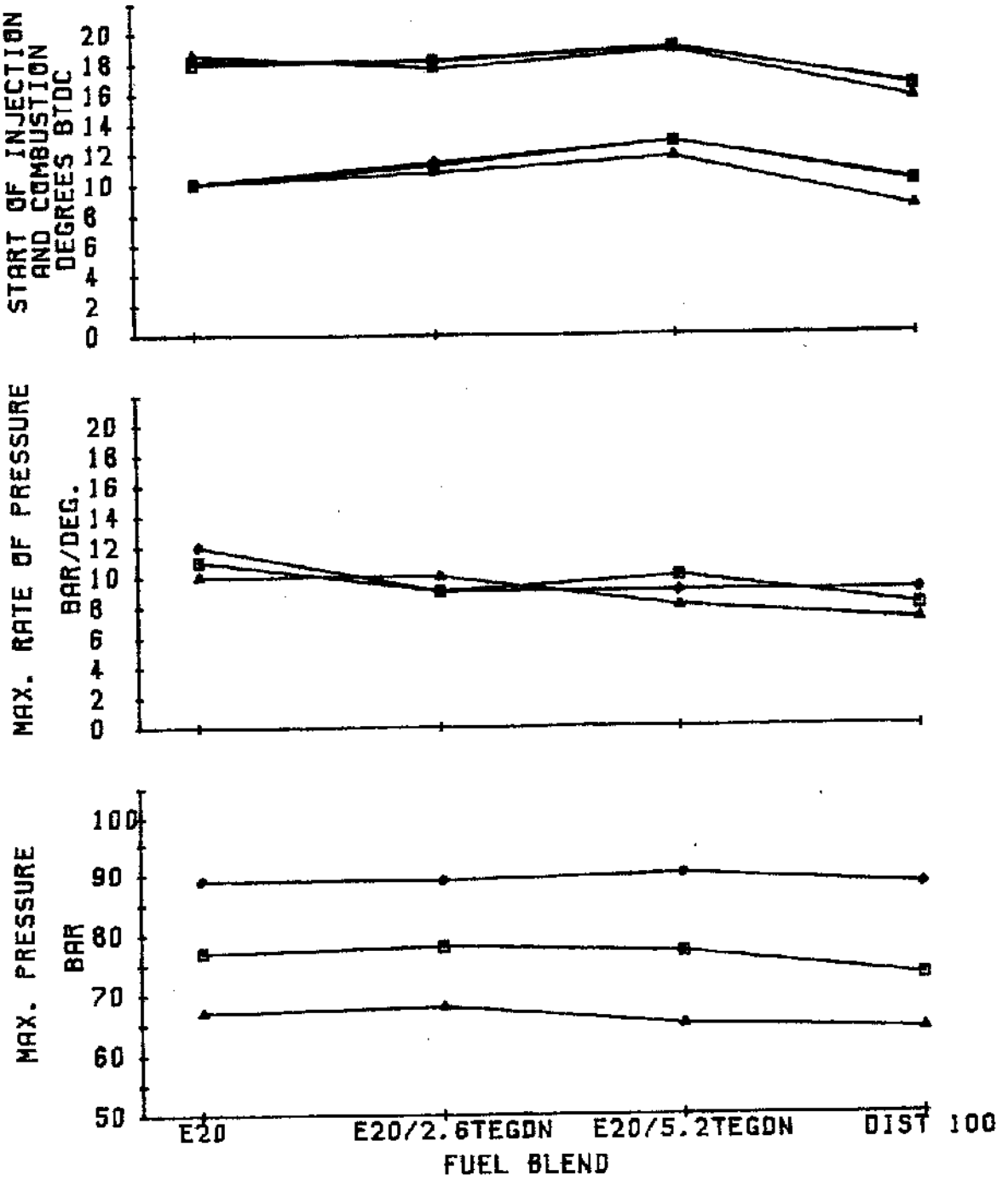
ENGINE : FORD 3000 CAPACITY: 2860	• DIST 100 ▪ E20 ▲ E20/.2ION ⧗ E20/.4ION 600 R.P.M.
EFFECT OF ION ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	FIG AP36



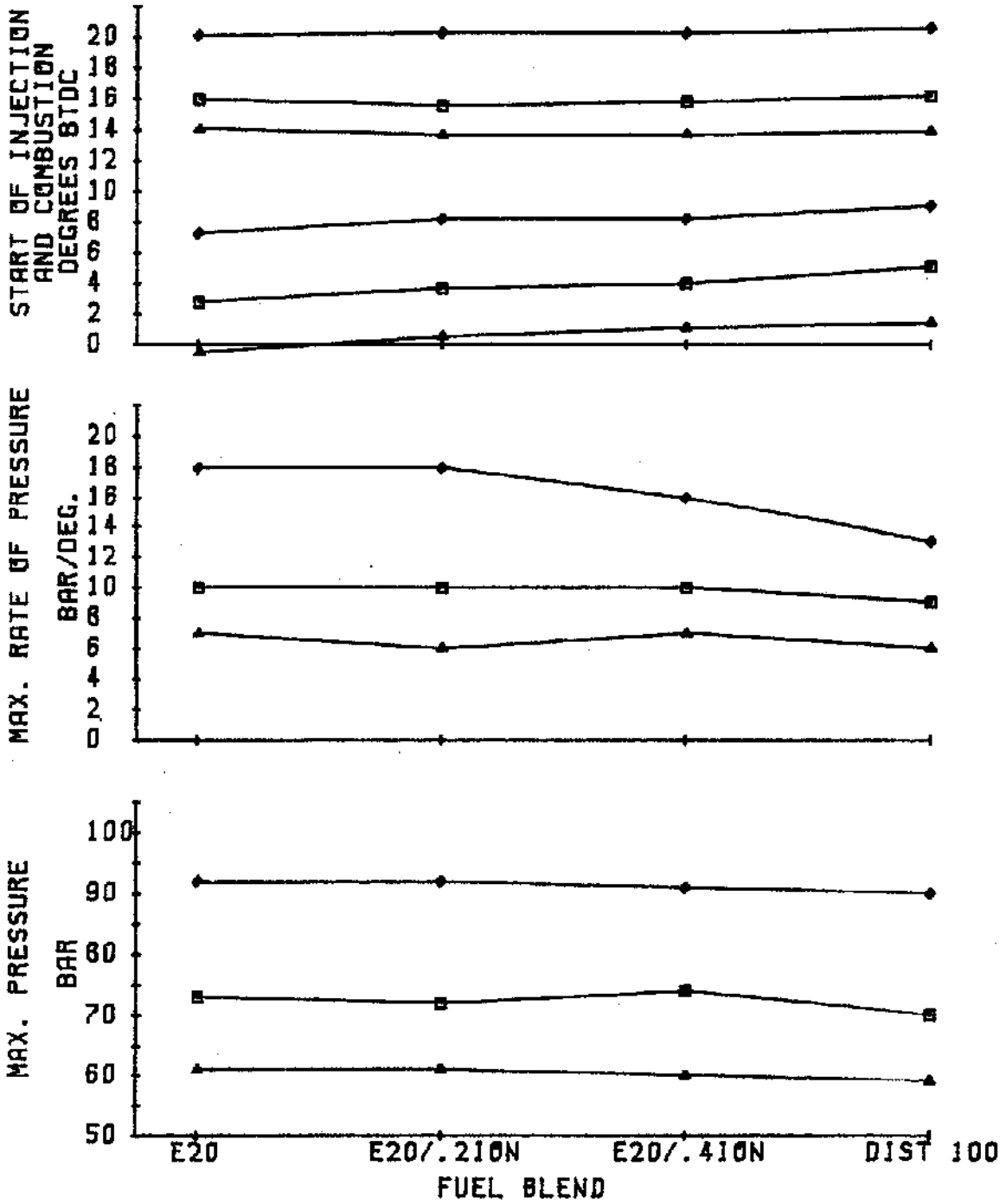
ENGINE : FORD 3000 CAPACITY: 2860	♦ FULL LOAD ▪ 2/3 LOAD ▲ 1/3 LOAD 2000 R.P.M.
EFFECT OF TEGDN ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	FIG AP37



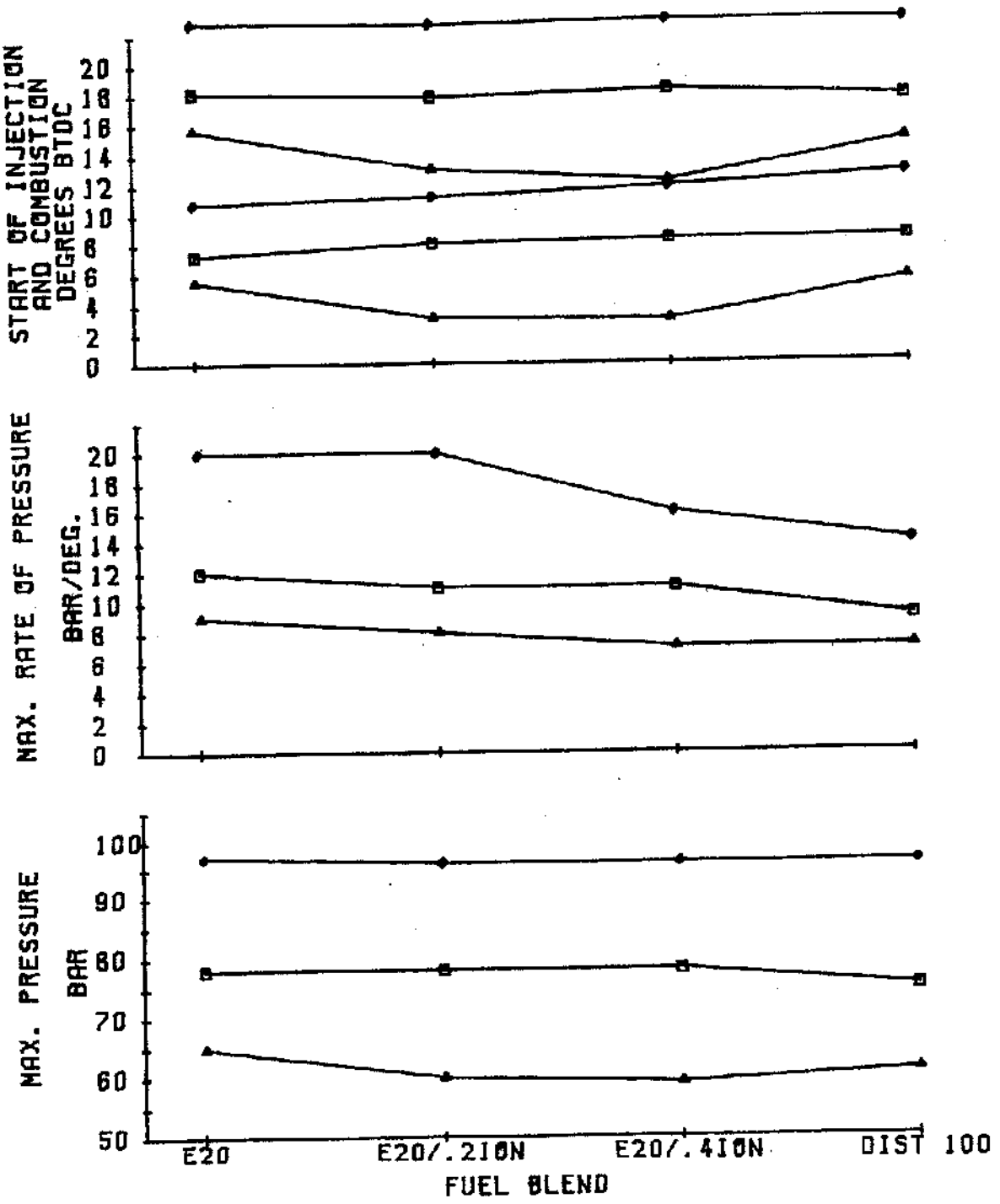
ENGINE : FORD 3000 CAPACITY: 2660	• FULL LOAD ▪ 2/3 LOAD ▲ 1/3 LOAD 1400 R.P.M.
EFFECT OF TEGDN ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	FIG AP36



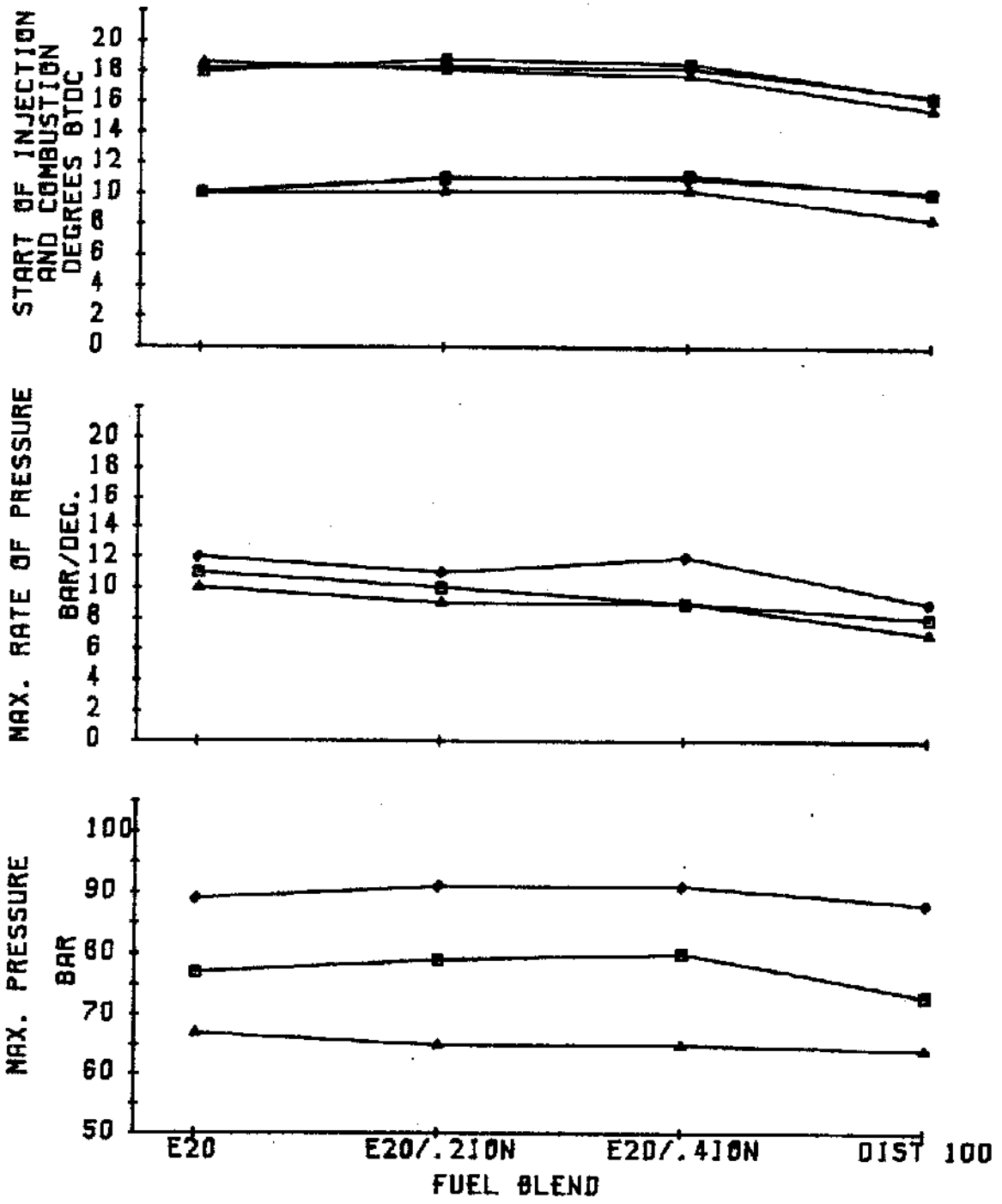
ENGINE : FORD 3000 CAPACITY: 2660	♦ FULL LOAD ■ 2/3 LOAD ▲ 1/3 LOAD
EFFECT OF TEGDN ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	800 R.P.M. FIG AP39



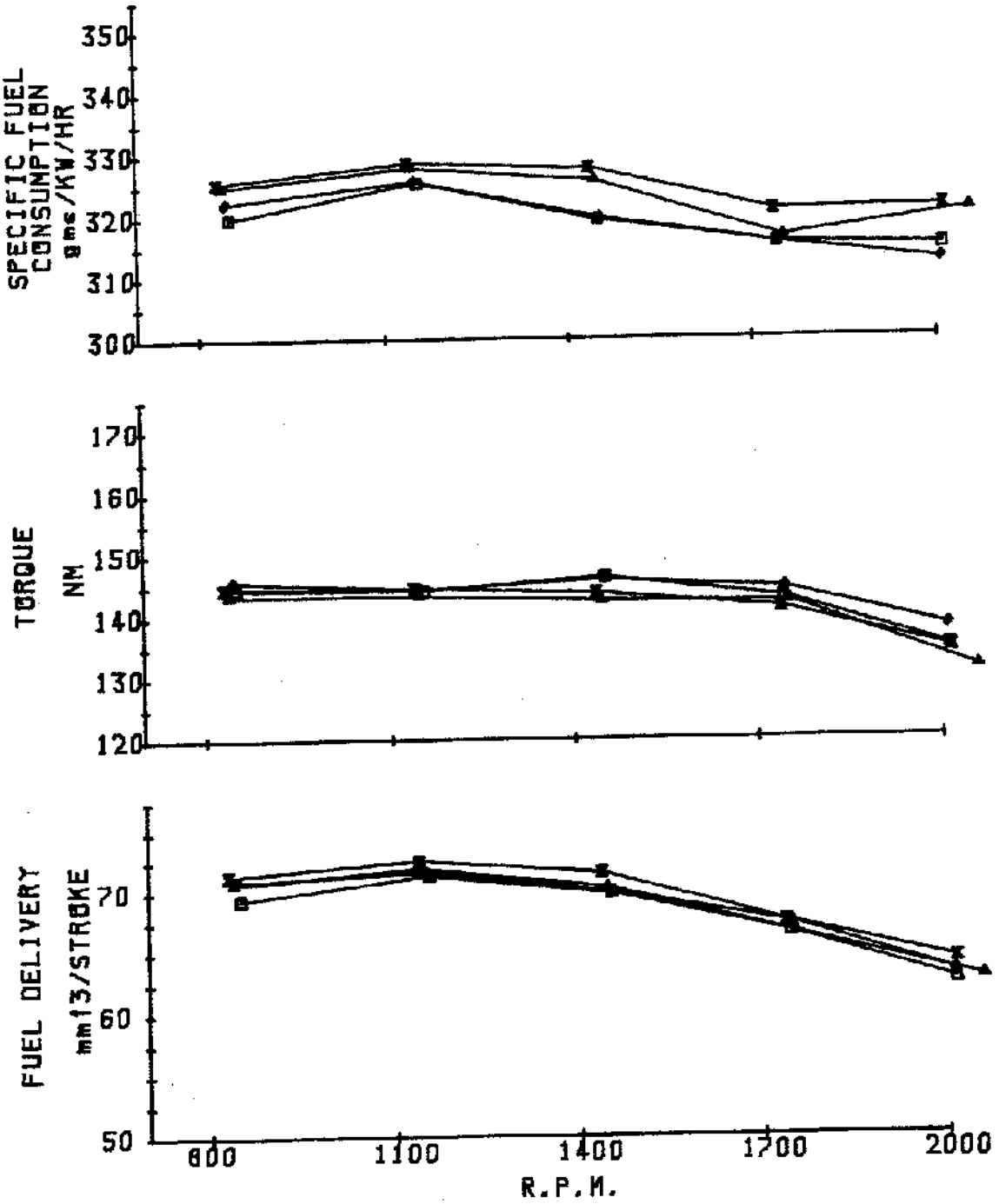
ENGINE : FORD 3000 CAPACITY: 2660	• FULL LOAD ▪ 2/3 LOAD ▲ 1/3 LOAD
EFFECT OF ION ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	2000 R.P.M. FIG AP40



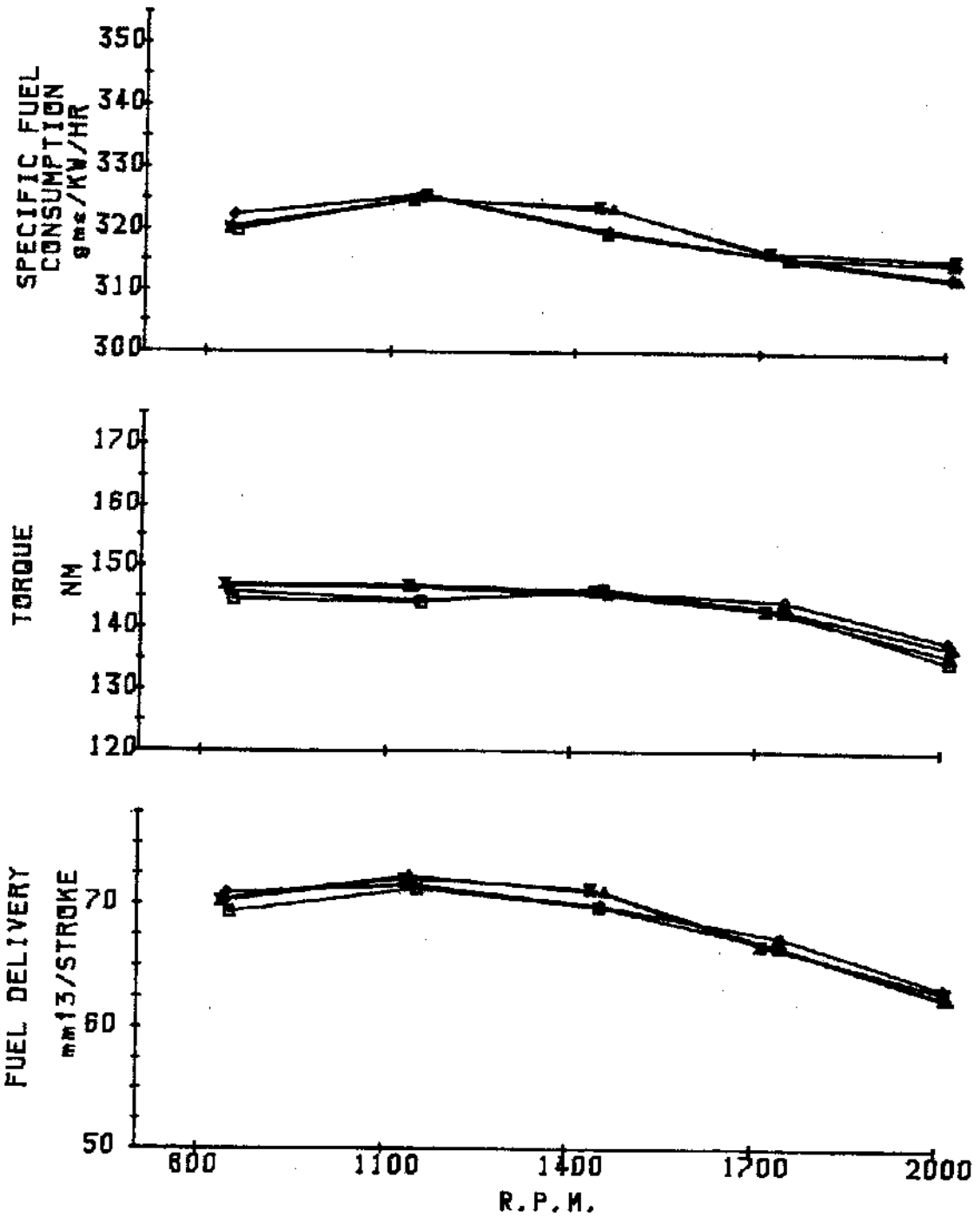
ENGINE : FORD 3000 CAPACITY: 2660	◆ FULL LOAD ▪ 2/3 LOAD ▲ 1/3 LOAD 1400 R.P.M.
EFFECT OF ION ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	FIG AP41



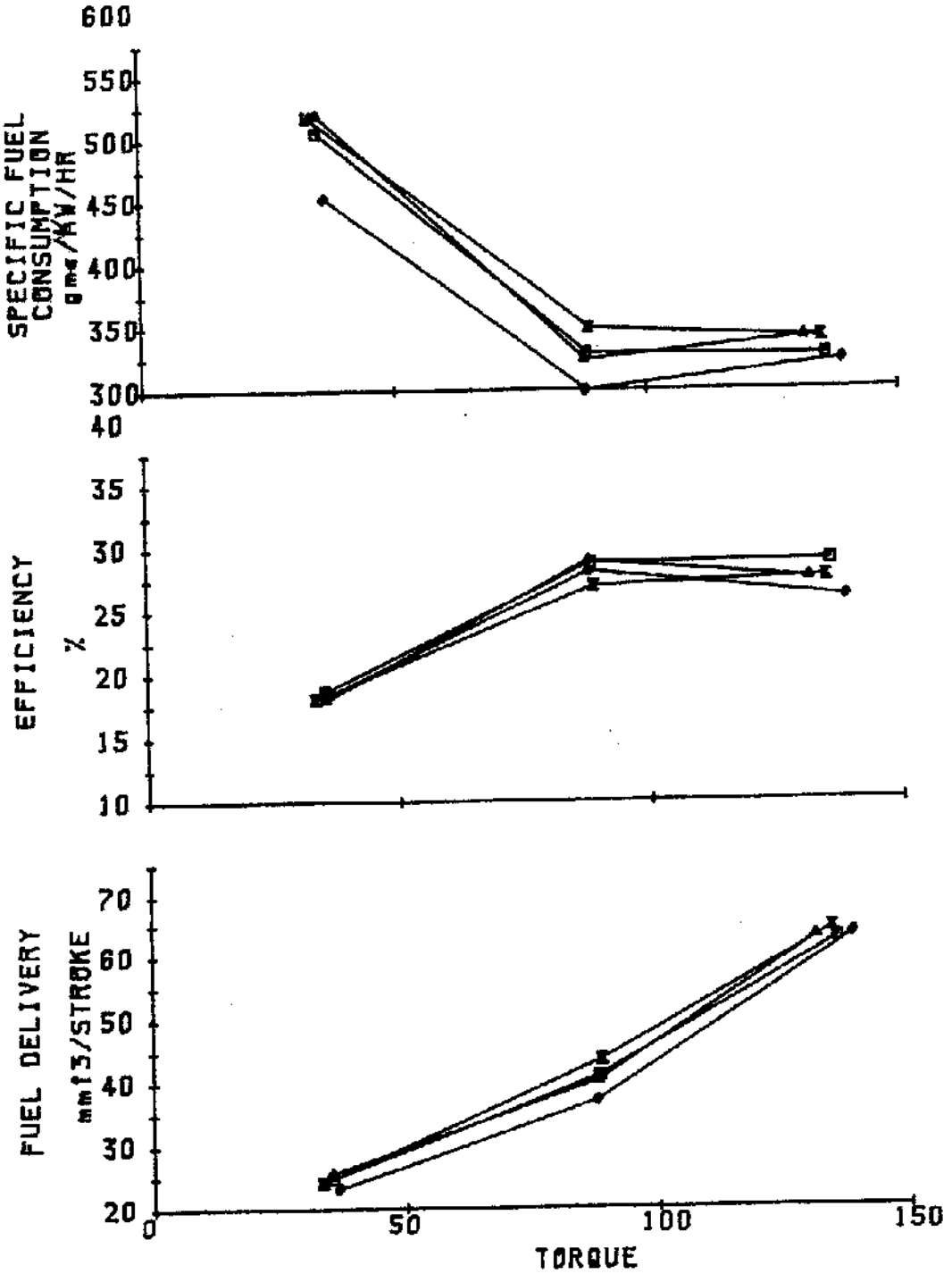
ENGINE : FORD 3000 CAPACITY: 2660	• FULL LOAD ▪ 2/3 LOAD ▲ 1/3 LOAD 600 R.P.M.
EFFECT OF ION ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	FIG AP42



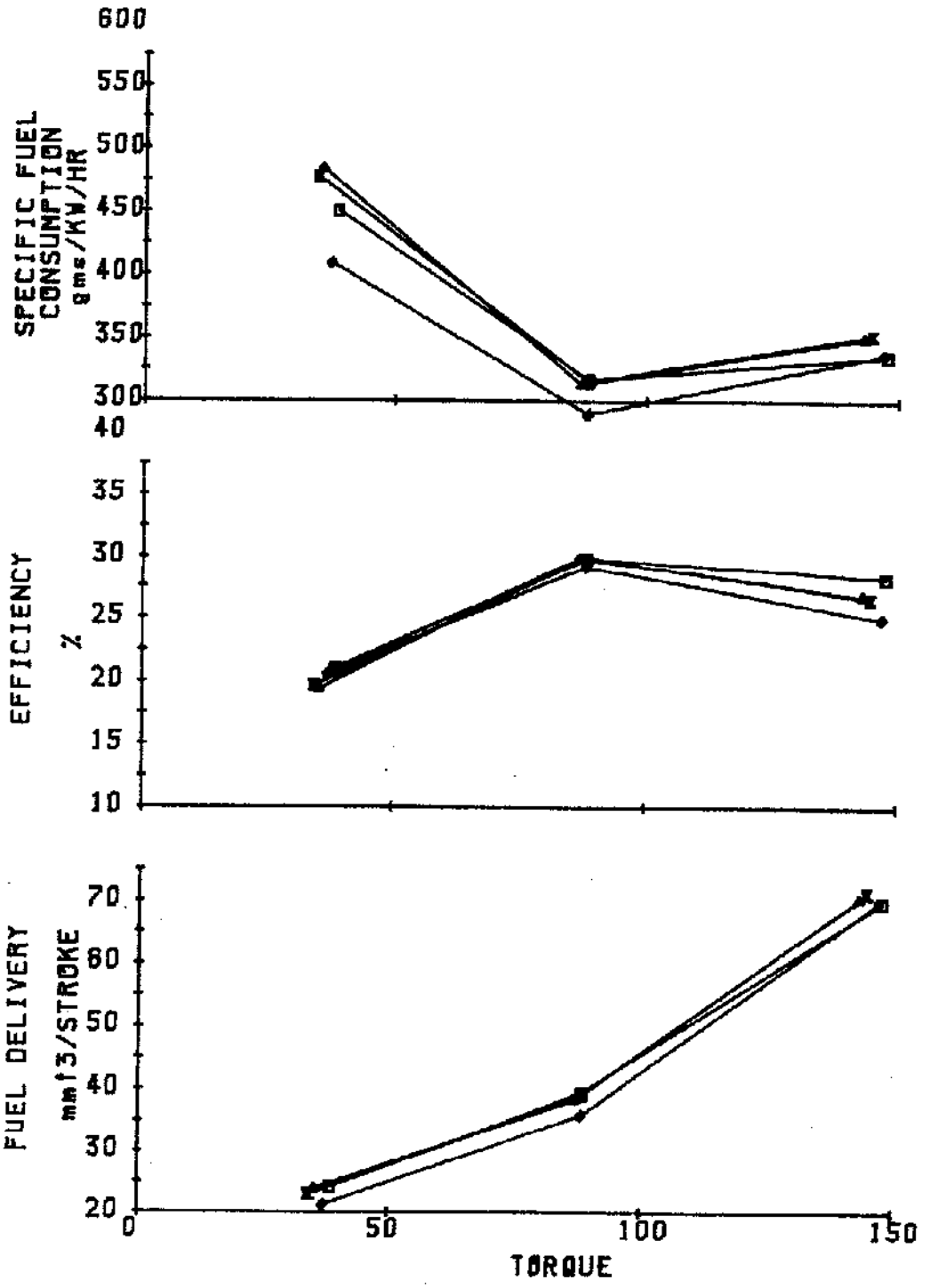
ENGINE : FORD 3000 CAPACITY: 2860	◆ DIST 100 ■ E20 ▲ E20/2.6TEGON ✕ E20/5.2TEGON FULL LOAD
EFFECT OF TEGON ON INJECTION PUMP DELIVERT, TORQUE & S.F.C.	FIG AP43



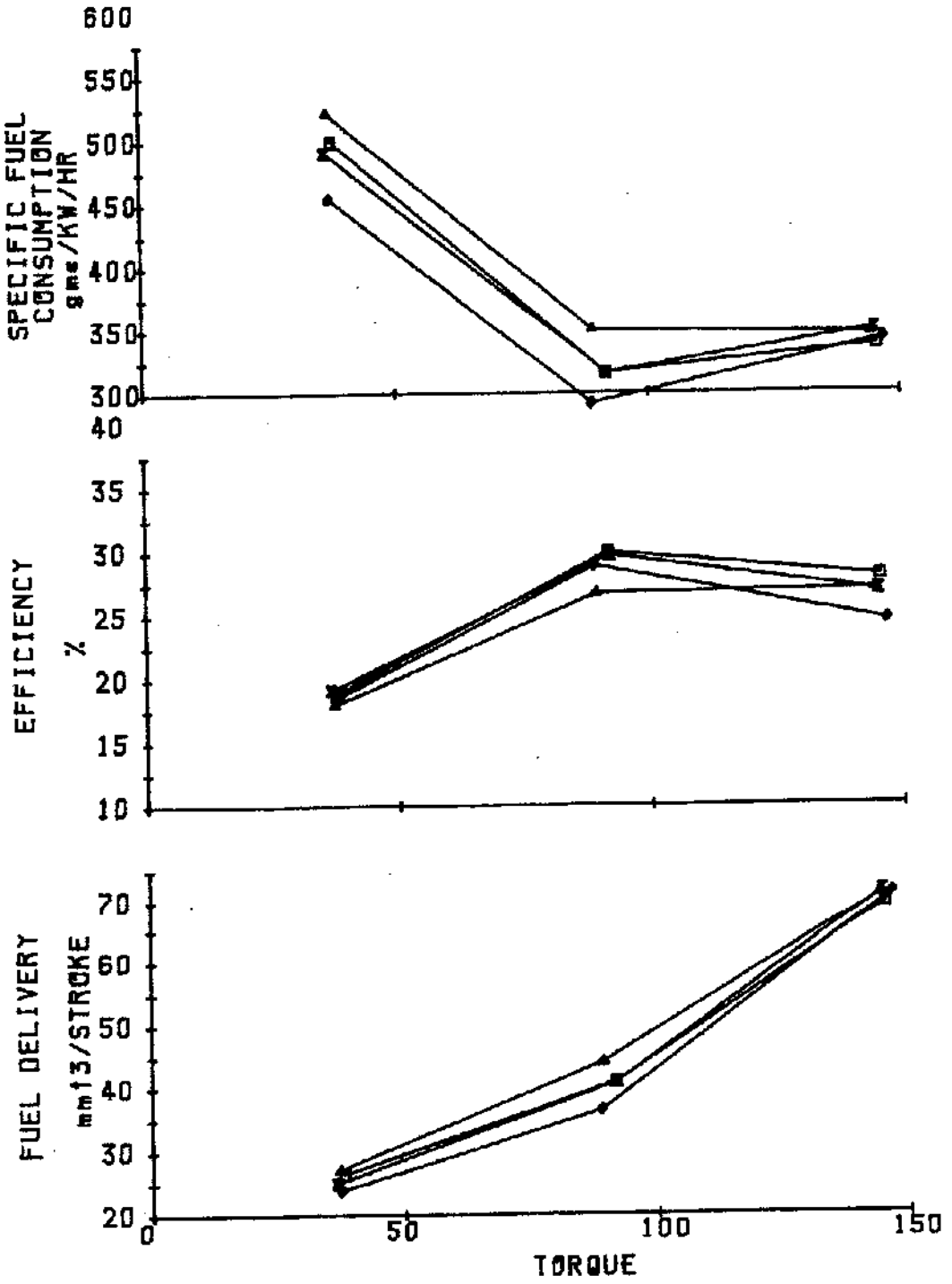
ENGINE : FORD 3000 CAPACITY: 2660	◆ DIST 100 ■ E20 ▲ E20/.21ON ⧗ E20/.41ON FULL LOAD
EFFECT OF ION ON INJECTION PUMP DELIVERY, TORQUE & S.F.C.	FIG AP44



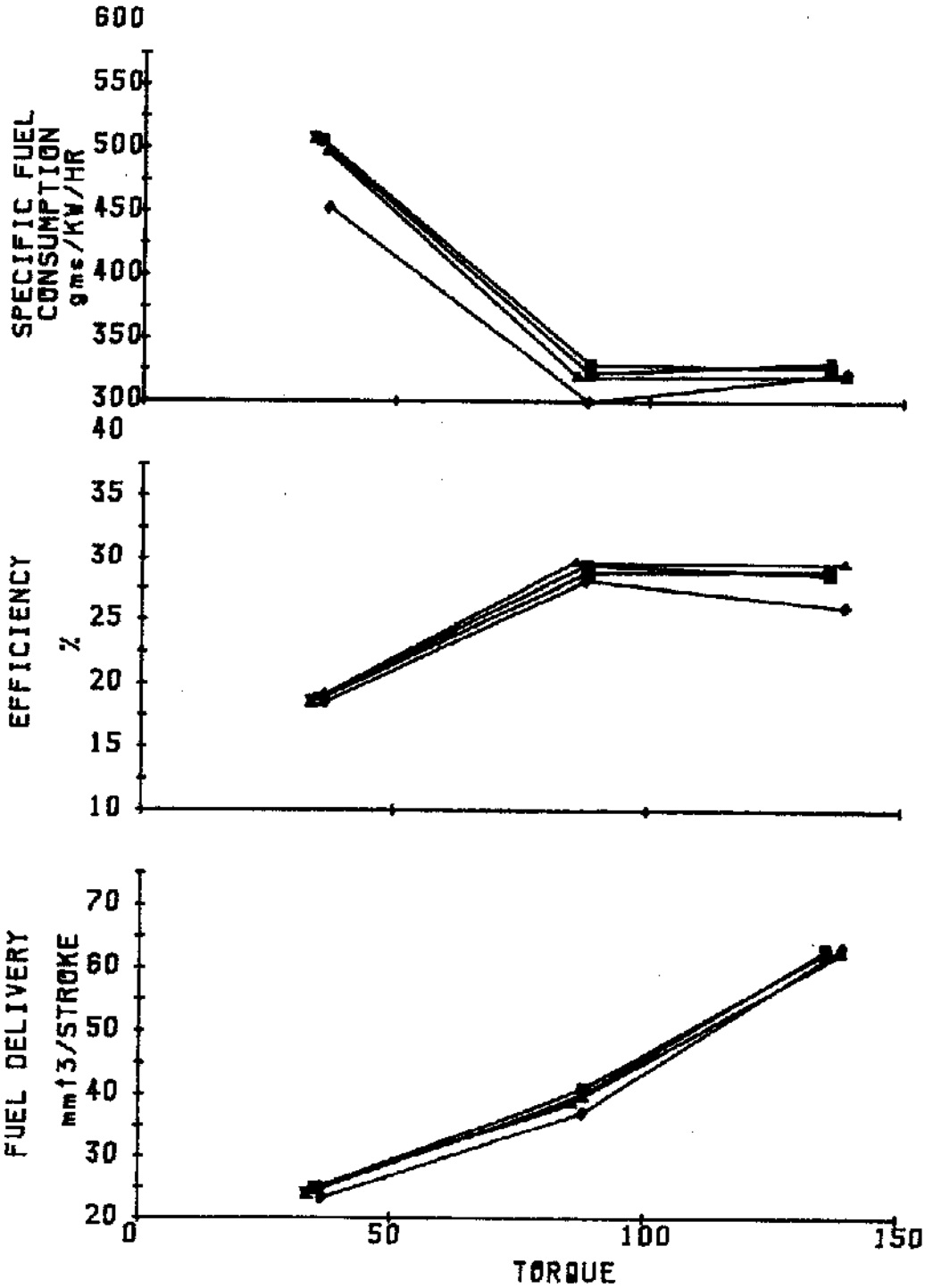
ENGINE : FORD 3000 CAPACITY: 2860	◆ DIST 100 ▪ E20 ▲ E20/2.6TEGDN ⧗ E20/5.2TEGDN 2000 R.P.M.
EFFECT OF TEGDN ON INJECTION PUMP DELIVERY, EFFICIENCY & S.F.C.	FIG AP45



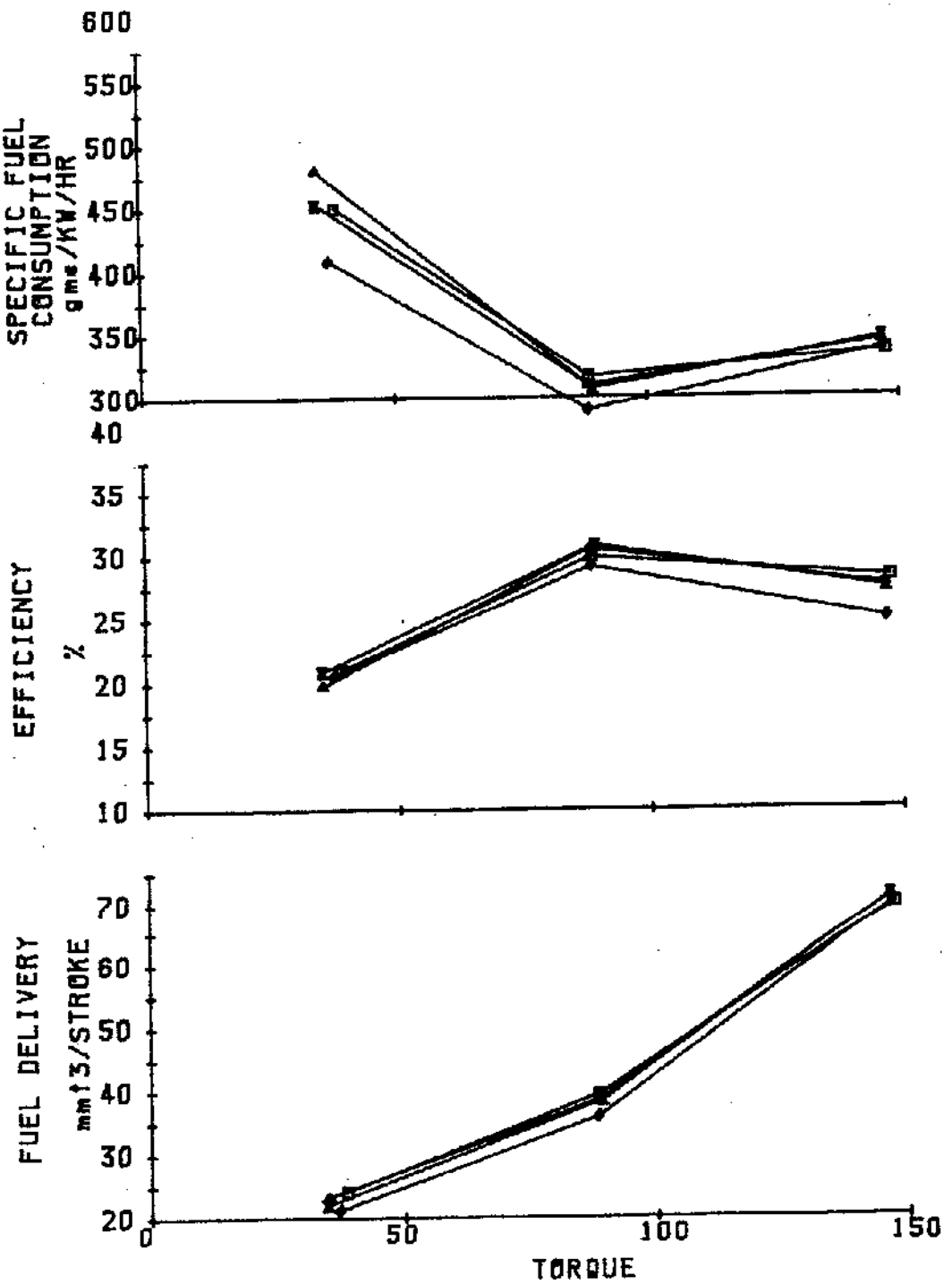
ENGINE : FORD 3000 CAPACITY: 2860	• DIST 100 ▪ E20 ▲ E20/2.6TEGDN x E20/5.2TEGDN 1400 R.P.M.
EFFECT OF TEGDN ON INJECTION PUMP DELIVERY, EFFICIENCY & S.F.C.	FIG AP46



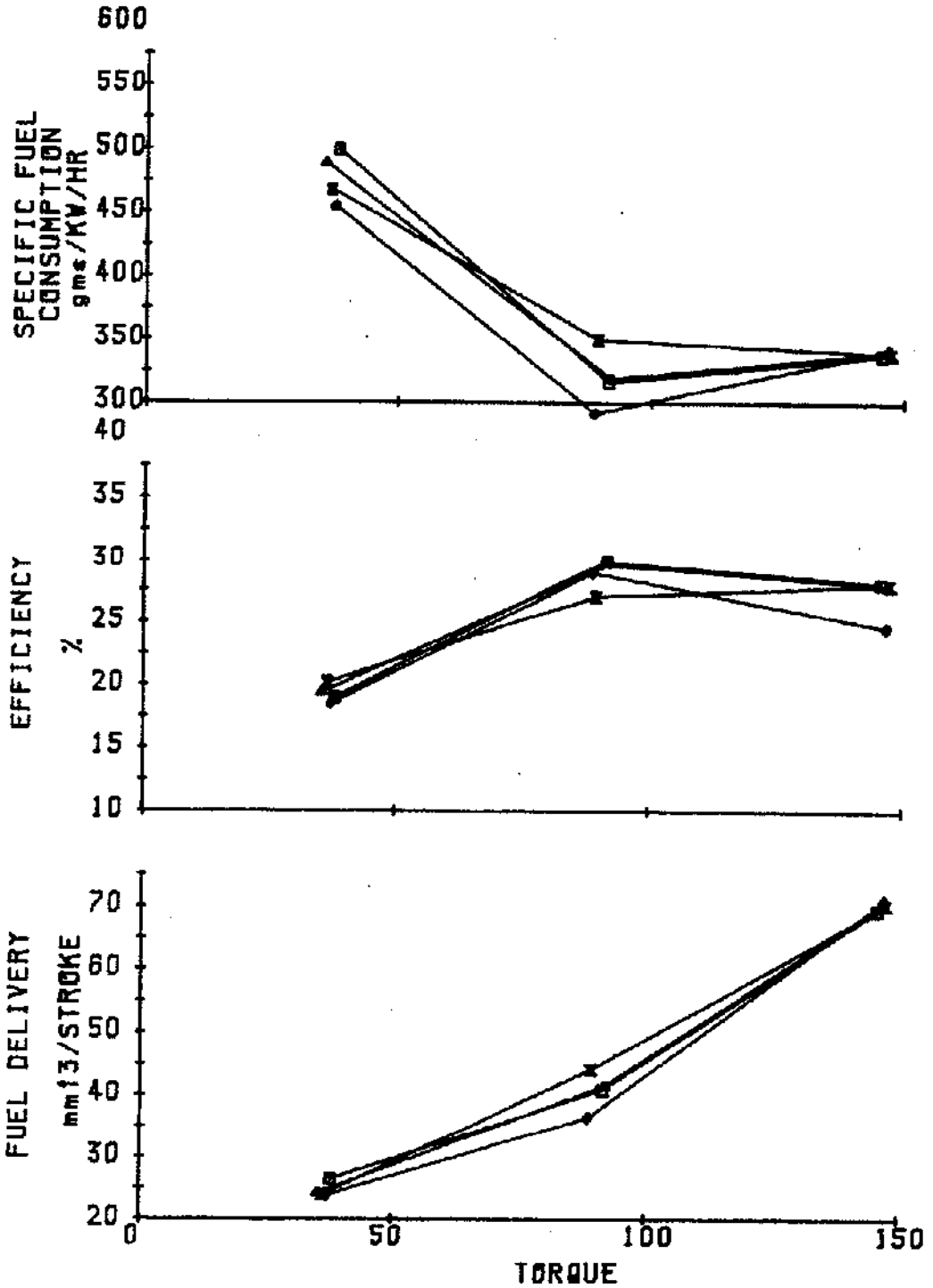
ENGINE : FORD 3000 CAPACITY: 2860	• DIST 100 ▫ E20 ▲ E20/2.6TEGDN ⧗ E20/5.2TEGDN 800 R.P.M.
EFFECT OF TEGDN ON INJECTION PUMP DELIVERY, EFFICIENCY & S.F.C.	FIG AP47



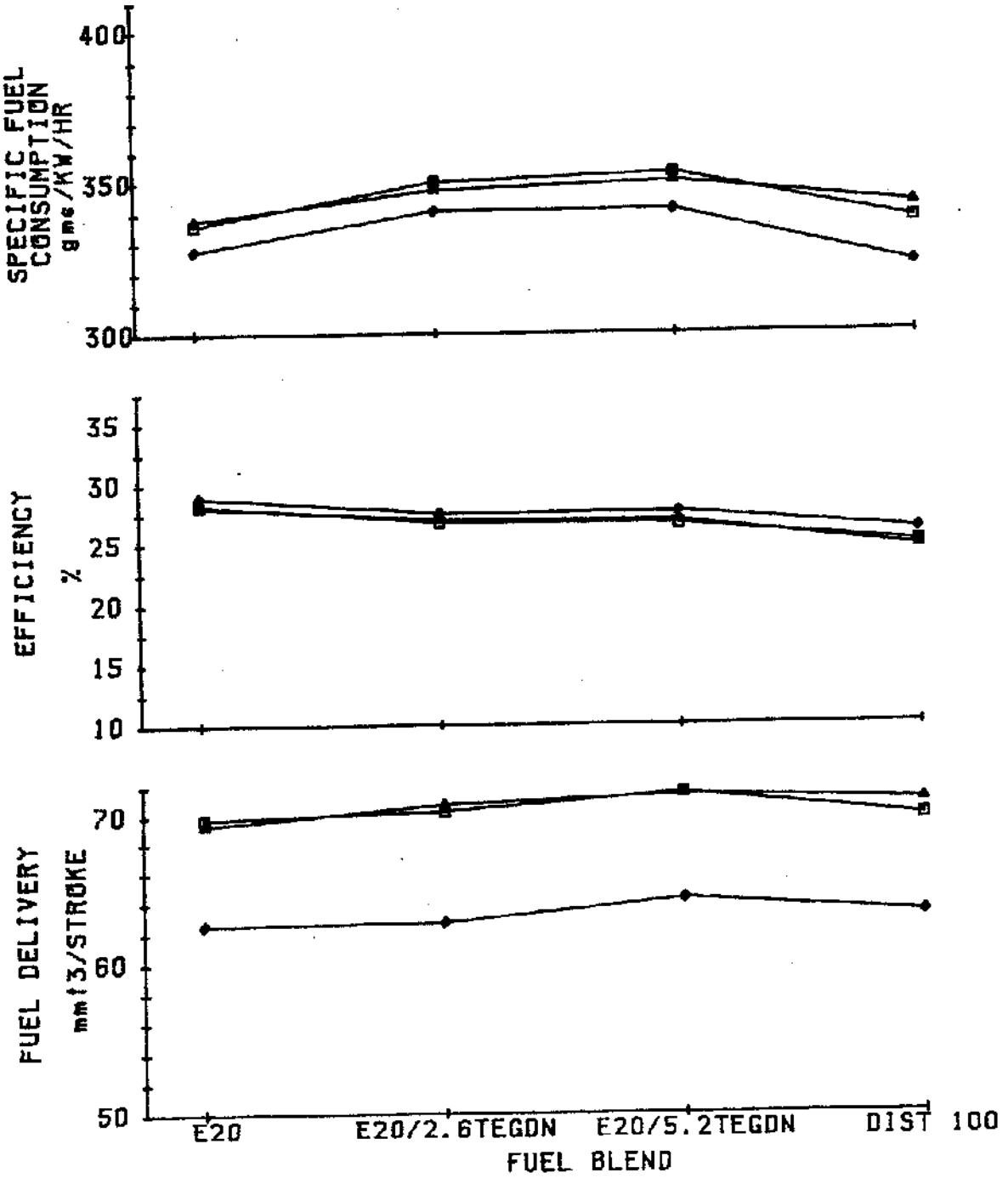
ENGINE : FORD 3000 CAPACITY: 2660	◆ DIST 100 ■ E20 ▲ E20/.2ION ✕ E20/.4ION 2000 R.P.M.
EFFECT OF ION ON INJECTION PUMP DELIVERY, EFFICIENCY & S.F.C.	FIG AP4B



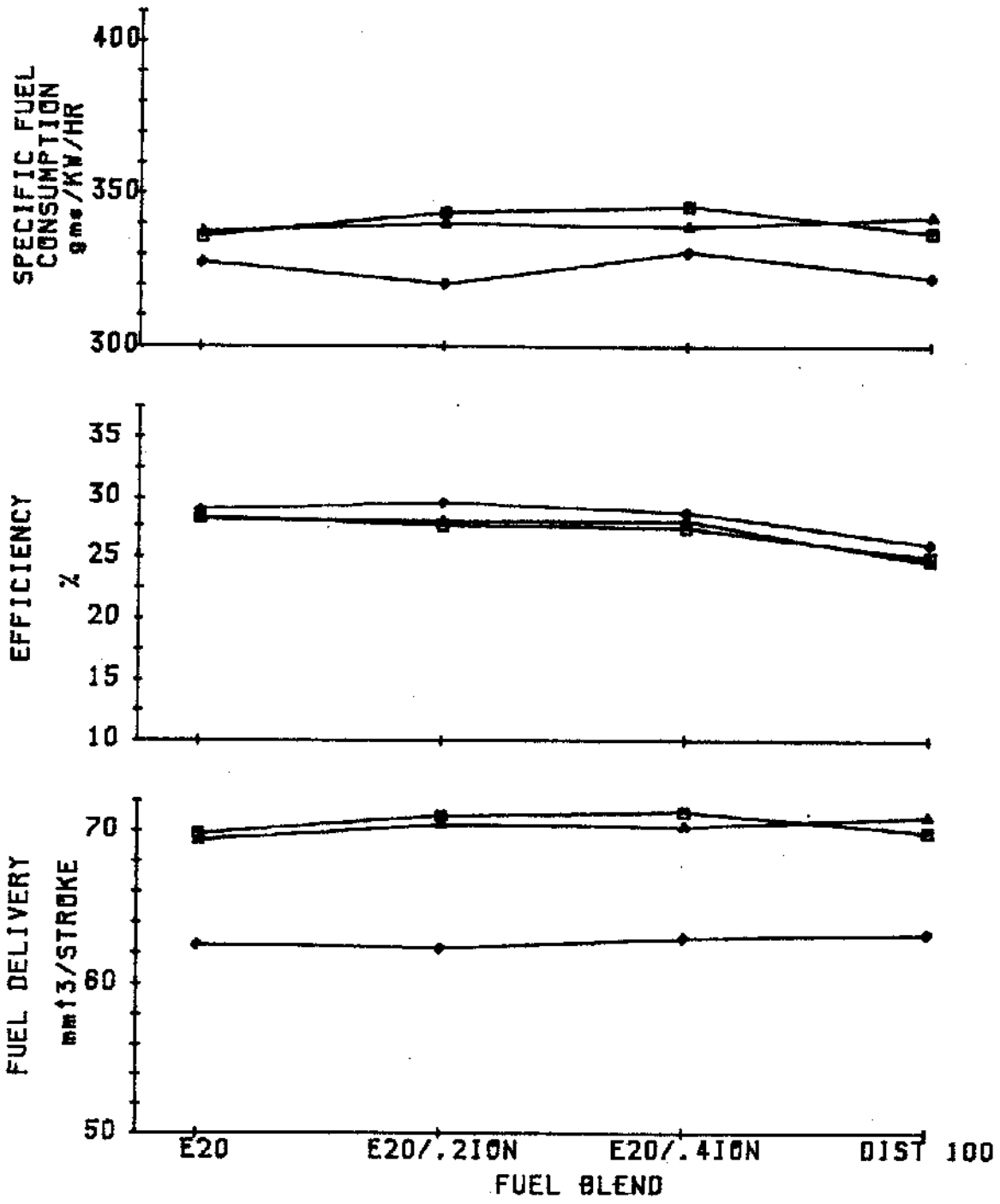
ENGINE : FORD 3000 CAPACITY: 2860	• DIST 100 ▫ E20 ▲ E20/.21ON x E20/.41ON 1400 R.P.M.
EFFECT OF ION ON INJECTION PUMP DELIVERY, EFFICIENCY & S.F.C.	FIG AP49



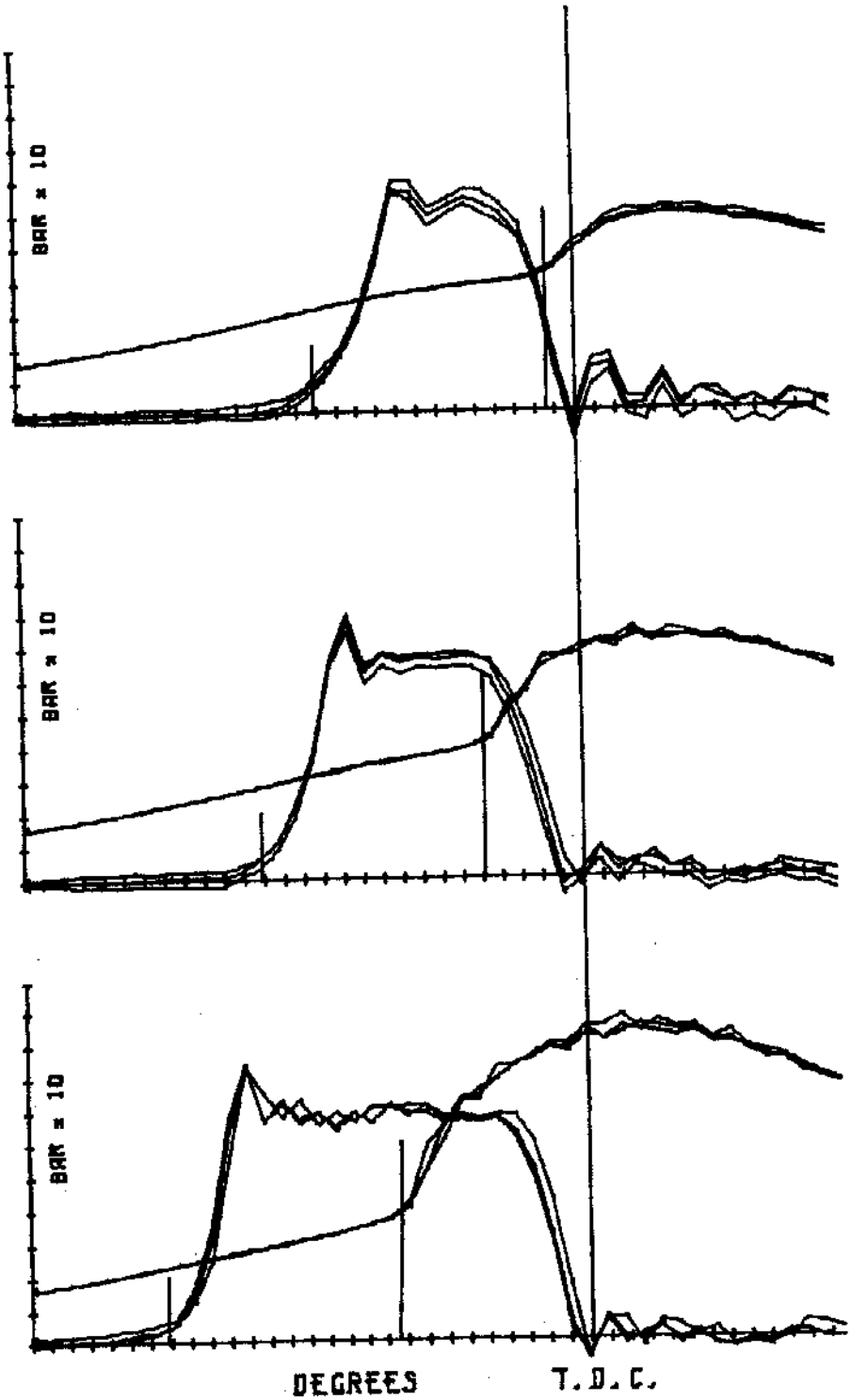
ENGINE : FORD 3000 CAPACITY: 2660	◆ DIST 100 ◘ E20 ▲ E20/.2ION ⧗ E20/.4ION 600 R.P.M.
EFFECT OF ION ON INJECTION PUMP DELIVERY, EFFICIENCY & S.F.C.	FIG AP50



ENGINE : FORD 3000 CAPACITY: 2860	◆ 2000 R.P.M. ■ 1400 R.P.M. ▲ 800 R.P.M. FULL LOAD
EFFECT OF TEGDN ON INJECTION PUMP DELIVERY, EFFICIENCY & S.F.C.	FIG AP51



ENGINE : FORD 3000 CAPACITY: 2680	• 2000 R.P.M. ▪ 1400 R.P.M. ▲ 600 R.P.M.
EFFECT OF ION ON INJECTION PUMP DELIVERY, EFFICIENCY & S.F.C.	FULL LOAD FIG AP52

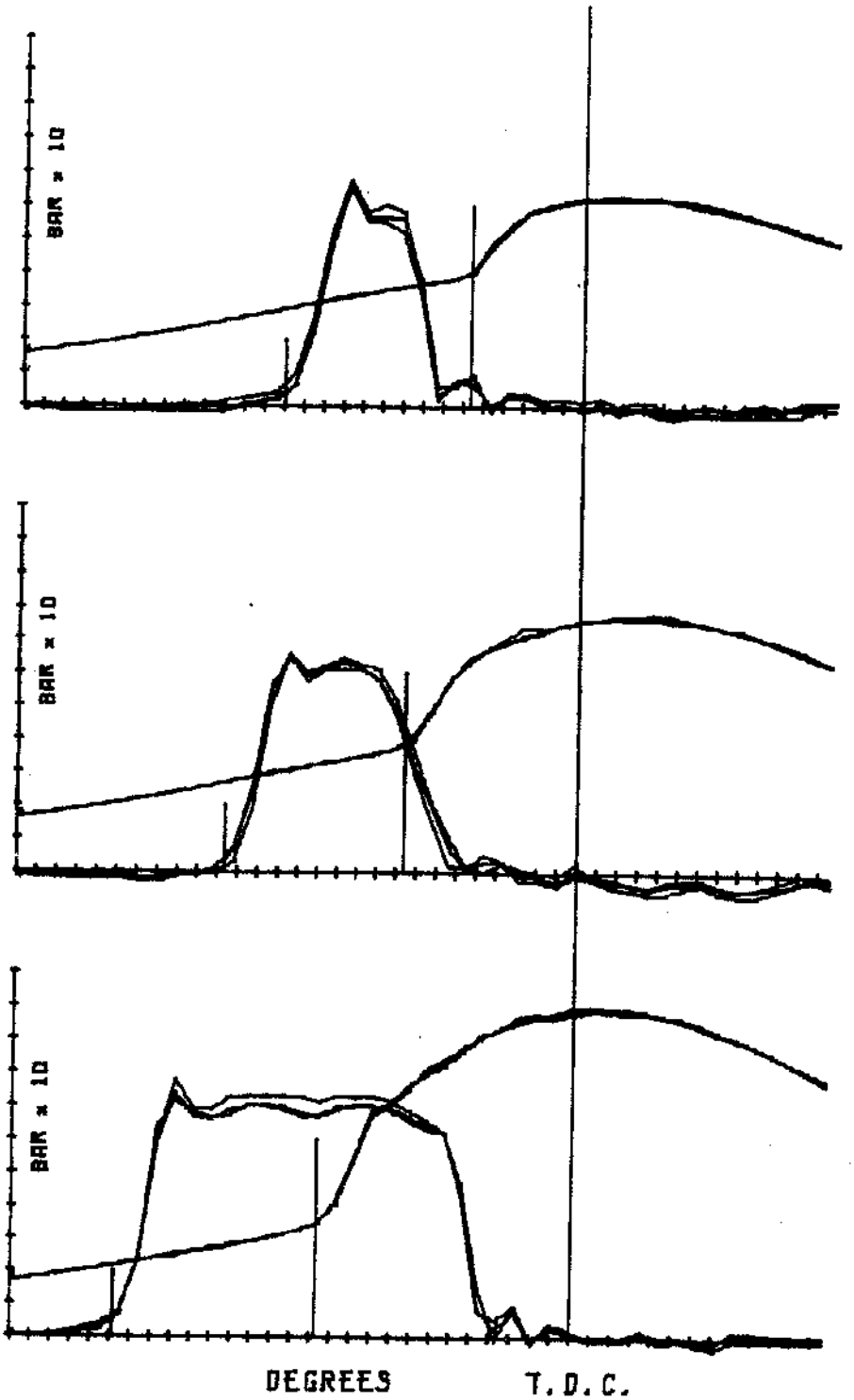


AVERAGE
TORQUE : 35
R.P.M. : 2044
START OF
INJN. : 13.2
COMBN. : 1.4
DELAY
DEGREES : 11.6
mS : .985
MAXIMUM
PRESSURE: 60.1
RATE : 5.5
TEMPERATURES
AIR INLET: 26
EXHAUST : 167

AVERAGE
TORQUE : 80
R.P.M. : 2050
START OF
INJN. : 16.2
COMBN. : 5
DELAY
DEGREES : 11.2
mS : .812
MAXIMUM
PRESSURE: 73.4
RATE : 9.1
TEMPERATURES
AIR INLET: 30
EXHAUST : 279

AVERAGE
TORQUE : 145
R.P.M. : 2054
START OF
INJN. : 21.2
COMBN. : 8.5
DELAY
DEGREES : 11.7
mS : .852
MAXIMUM
PRESSURE: 85.4
RATE : 14
TEMPERATURES
AIR INLET: 31
EXHAUST : 420

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : DIST 100 C.V. : 42.75 DENSITY : .849
TEST ID. : UNIDO10	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP53

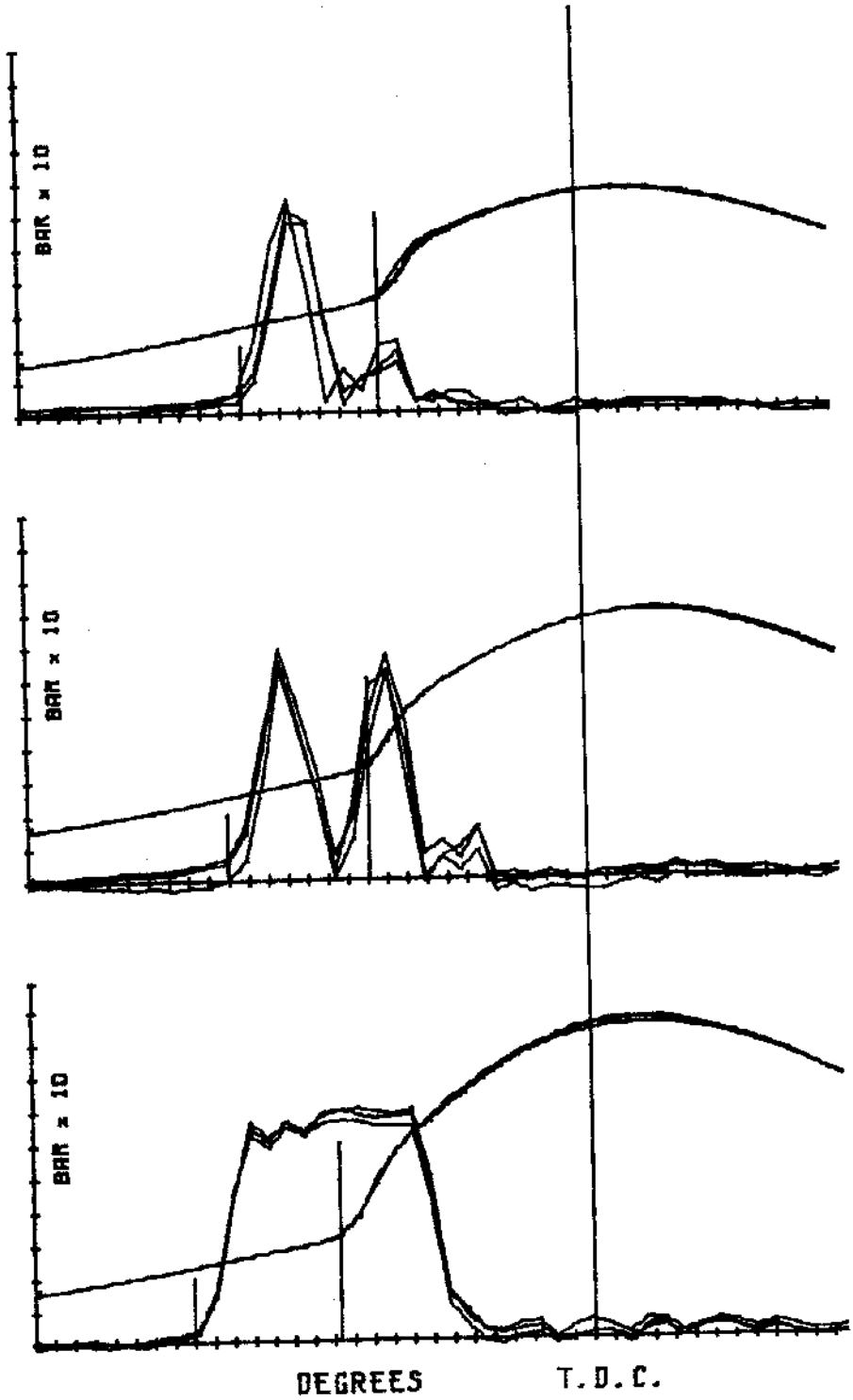


AVERAGE
TORQUE : 38
R.P.M. : 1438
START OF
INJN. : 14.8
COMBN. : 5.8
DELAY
DEGREES : 8.3
mS : 1.081
MAXIMUM
PRESSURE: 83.2
RATE : 7.5
TEMPERATURES
AIR INLET: 26
EXHAUST : 151

AVERAGE
TORQUE : 68
R.P.M. : 1447
START OF
INJN. : 17.6
COMBN. : 6.8
DELAY
DEGREES : 8
mS : 1.038
MAXIMUM
PRESSURE: 76
RATE : 9.8
TEMPERATURES
AIR INLET: 28
EXHAUST : 225

AVERAGE
TORQUE : 154
R.P.M. : 1432
START OF
INJN. : 22.6
COMBN. : 12.6
DELAY
DEGREES : 10
mS : 1.173
MAXIMUM
PRESSURE: 88.5
RATE : 14.1
TEMPERATURES
AIR INLET: 30
EXHAUST : 405

ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : DIST 100 C.V. : 42.75 DENSITY : .849
TEST ID. : UNI0010	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP54

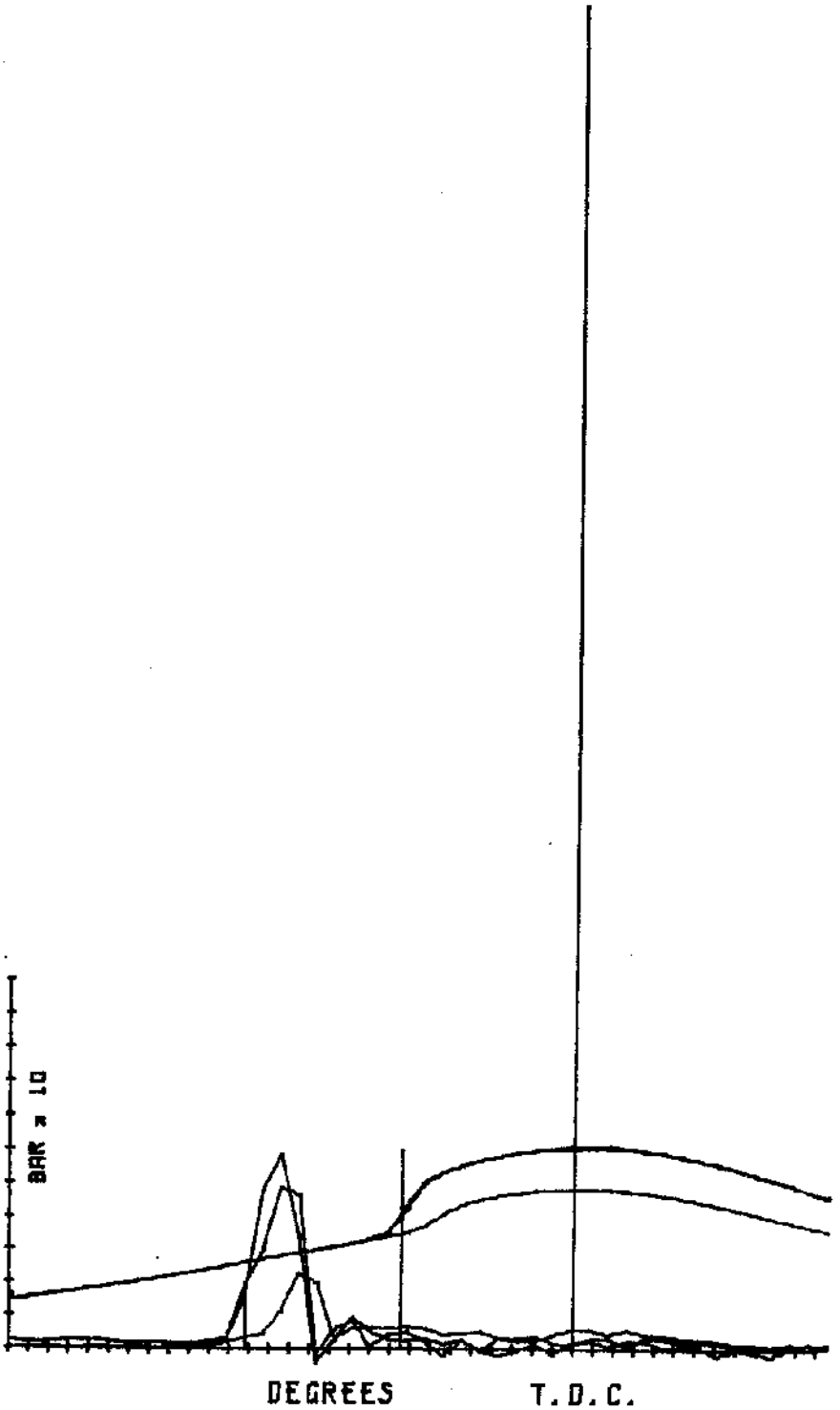


AVERAGE
TORQUE : 37
R.P.M. : 843
START OF
INJN. : 18.9
COMBN. : 10
DELAY
DEGREES : 6.8
mS : 1.371
MAXIMUM
PRESSURE: 66.4
RATE : 6.4
TEMPERATURES
AIR INLET: 26
EXHAUST : 138

AVERAGE
TORQUE : 90
R.P.M. : 833
START OF
INJN. : 16
COMBN. : 11
DELAY
DEGREES : 7
mS : 1.416
MAXIMUM
PRESSURE: 79.6
RATE : 6.2
TEMPERATURES
AIR INLET: 26
EXHAUST : 200

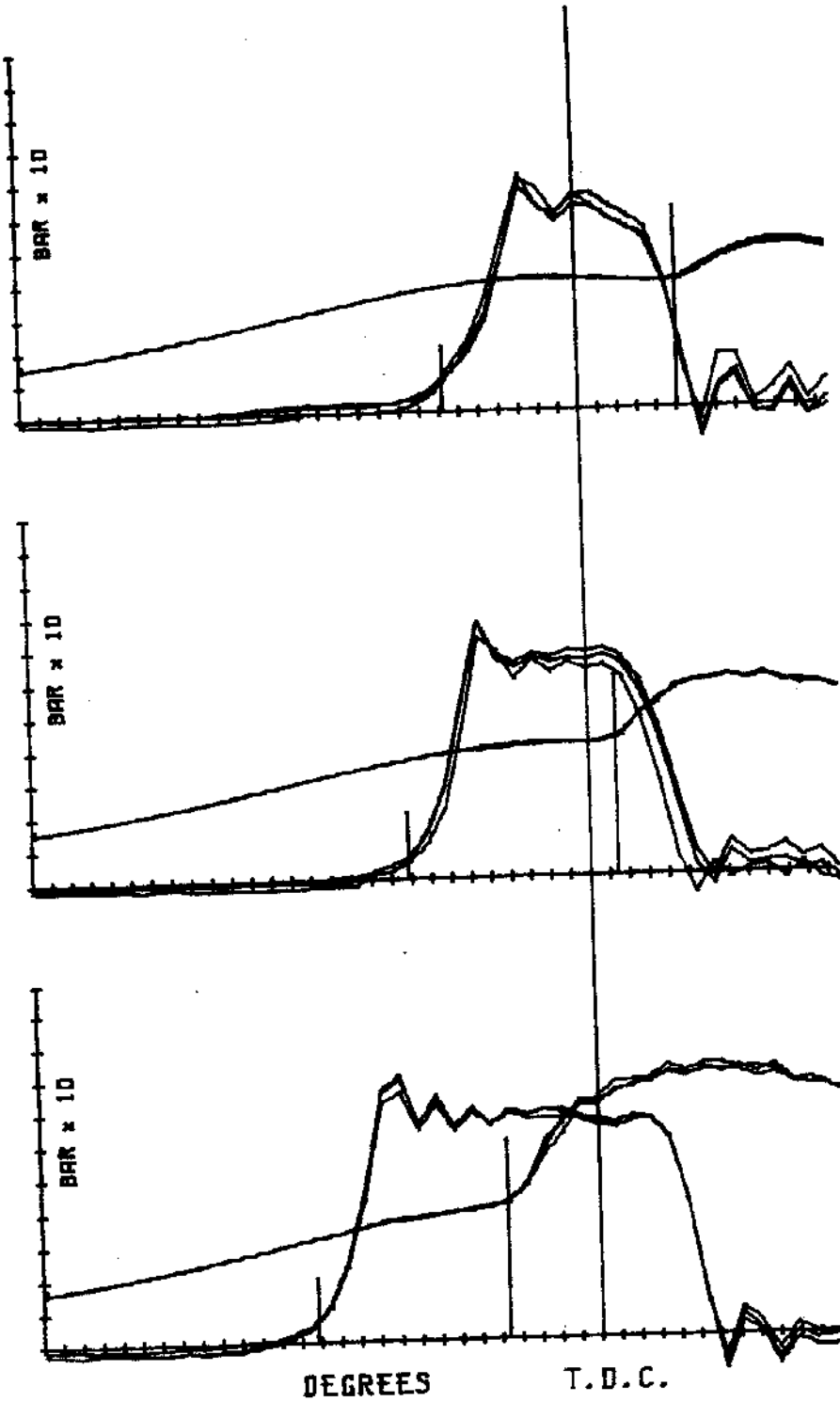
AVERAGE
TORQUE : 156
R.P.M. : 844
START OF
INJN. : 20.1
COMBN. : 12.7
DELAY
DEGREES : 7.4
mS : 1.453
MAXIMUM
PRESSURE: 95.7
RATE : 10.9
TEMPERATURES
AIR INLET: 28
EXHAUST : 327

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : DIST 100 C.V. : 42.75 DENSITY : .849
TEST ID. : UN10010	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP55



AVERAGE
TORQUE : 3
R.P.M. : 616
START OF
INJN. : 16.2
COMBN. : 8.5
DELAY
DEGREES : 7.7
mS : 1.574
MAXIMUM
PRESSURE: 56.9
RATE : 6.8
TEMPERATURES
AIR INLET: 28
EXHAUST : 97

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : DIST 100 C.V. : 42.75 DENSITY : .849
TEST ID. : UNI0010	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP56

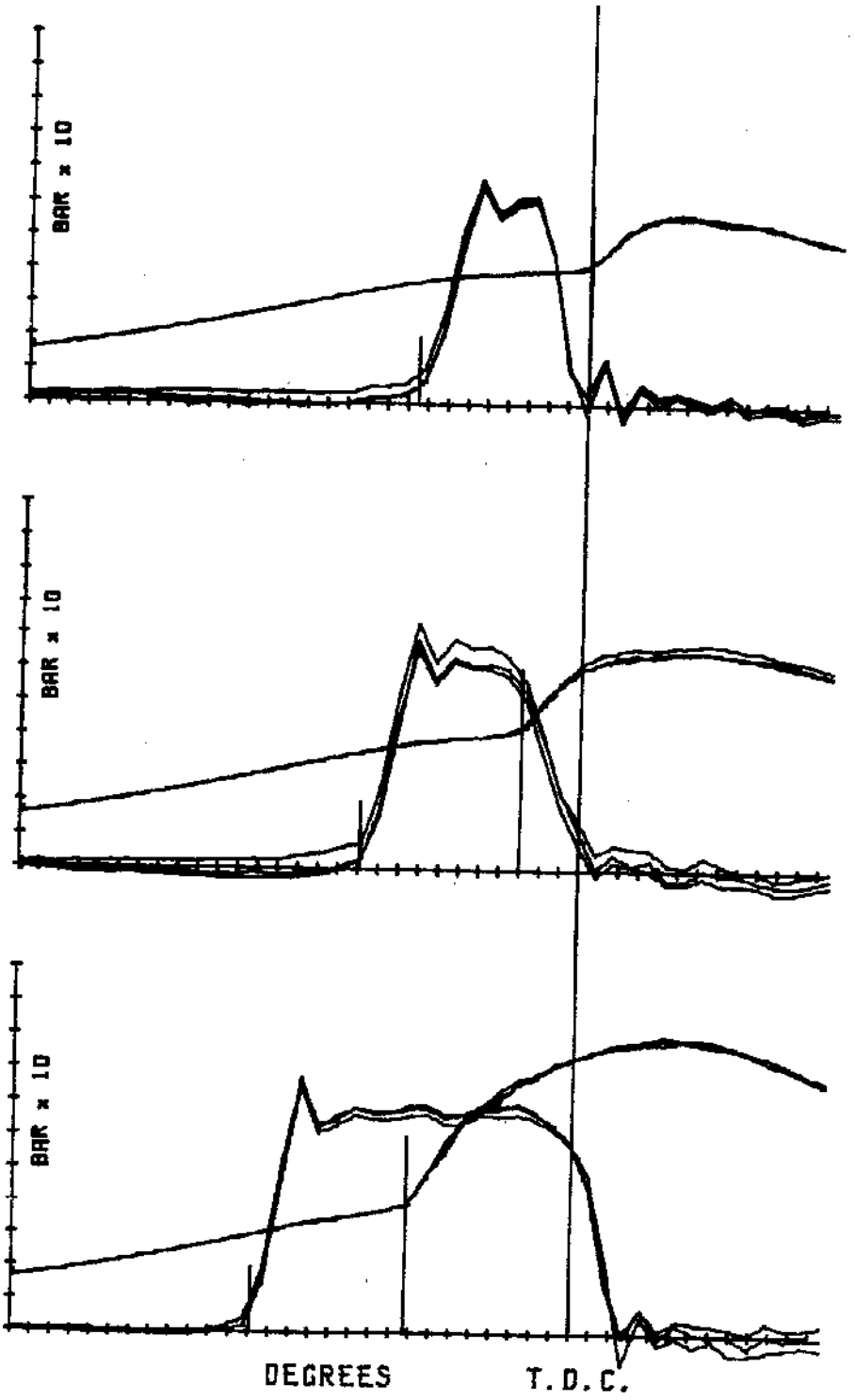


AVERAGE
TORQUE : 37
R.P.M. : 2030
START OF
INJN. : 8.8
COMBN. : -5.1
DELAY
DEGREES : 11.9
mS : .977
MAXIMUM
PRESSURE: 49.3
RATE : 3
TEMPERATURES
AIR INLET: 26
EXHAUST : 200

AVERAGE
TORQUE : 89
R.P.M. : 2050
START OF
INJN. : 9.2
COMBN. : -1.4
DELAY
DEGREES : 10.6
mS : .865
MAXIMUM
PRESSURE: 60.3
RATE : 6.4
TEMPERATURES
AIR INLET: 30
EXHAUST : 278

AVERAGE
TORQUE : 153
R.P.M. : 2052
START OF
INJN. : 14.2
COMBN. : 4.8
DELAY
DEGREES : 9.6
mS : .777
MAXIMUM
PRESSURE: 81.5
RATE : 10.1
TEMPERATURES
AIR INLET: 29
EXHAUST : 424

ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : DIST 100 C.V. : 42.75 DENSITY : .849
TEST ID. : UN10012	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP57

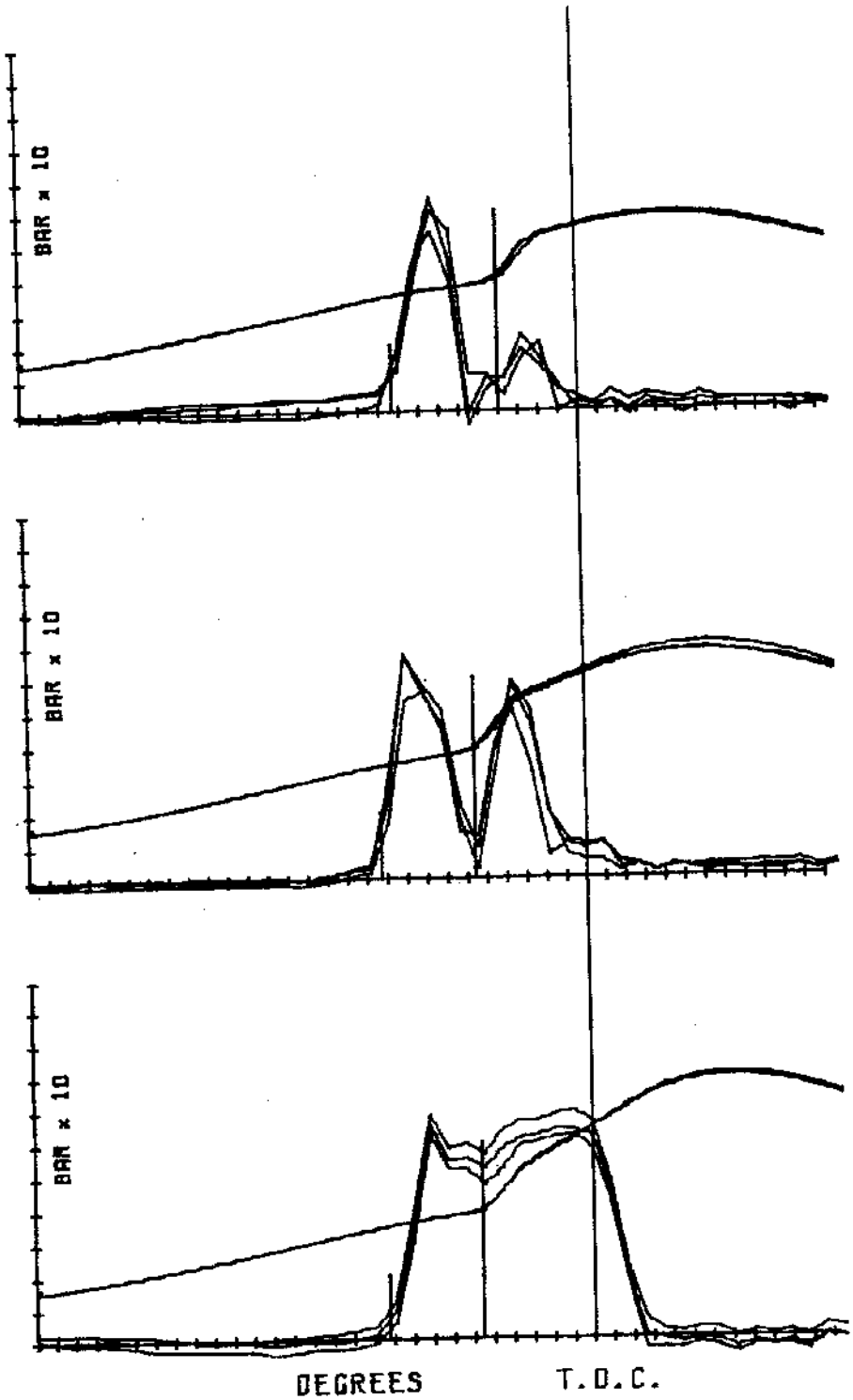


AVERAGE
TORQUE : 36
R.P.M. : 1428
START OF
INJN. : 6.4
COMBN. : -.1
DELAY
DEGREES : 6.5
mS : .895
MAXIMUM
PRESSURE: 56.6
RATE : 6.1
TEMPERATURES
AIR INLET: 26
EXHAUST : 154

AVERAGE
TORQUE : 69
R.P.M. : 1450
START OF
INJN. : 10.9
COMBN. : 2.9
DELAY
DEGREES : 8
mS : .916
MAXIMUM
PRESSURE: 66.8
RATE : 7.4
TEMPERATURES
AIR INLET: 28
EXHAUST : 229

AVERAGE
TORQUE : 106
R.P.M. : 1428
START OF
INJN. : 15.9
COMBN. : 8.2
DELAY
DEGREES : 7.7
mS : .899
MAXIMUM
PRESSURE: 89.6
RATE : 9.9
TEMPERATURES
AIR INLET: 30
EXHAUST : 408

ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : DIST 100 C.V. : 42.75 DENSITY : .849
TEST ID. : UNID012	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP58

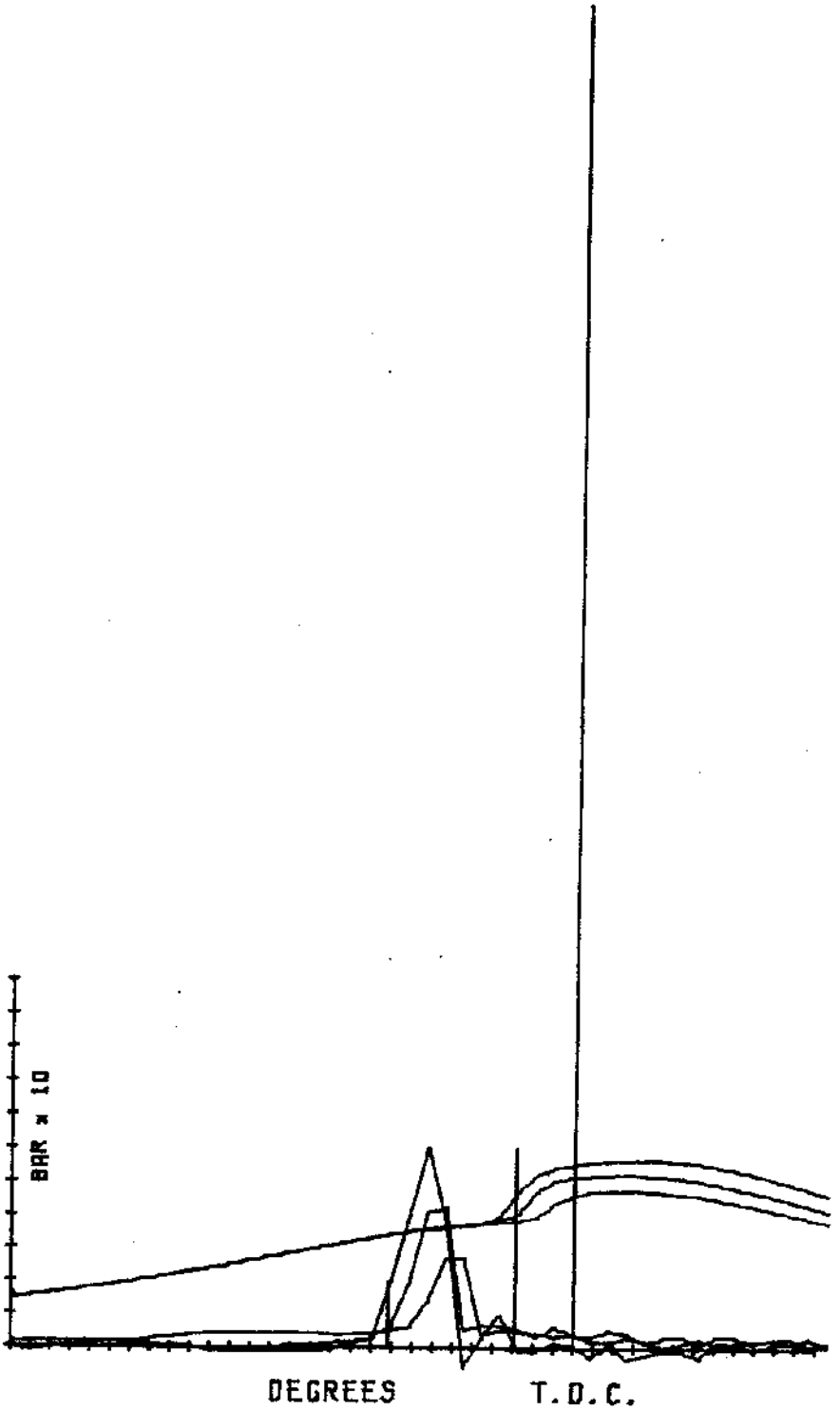


AVERAGE
TORQUE : 34
R.P.M. : 796
START OF
INJN. : 9.3
COMBN. : 4
DELAY
DEGREES : 5.3
mS : 1.12
MAXIMUM
PRESSURE: 58.2
RATE : 6.8
TEMPERATURES
AIR INLET: 27
EXHAUST : 129

AVERAGE
TORQUE : 95
R.P.M. : 812
START OF
INJN. : 10.3
COMBN. : 5.6
DELAY
DEGREES : 4.7
mS : .977
MAXIMUM
PRESSURE: 69.1
RATE : 7.4
TEMPERATURES
AIR INLET: 26
EXHAUST : 199

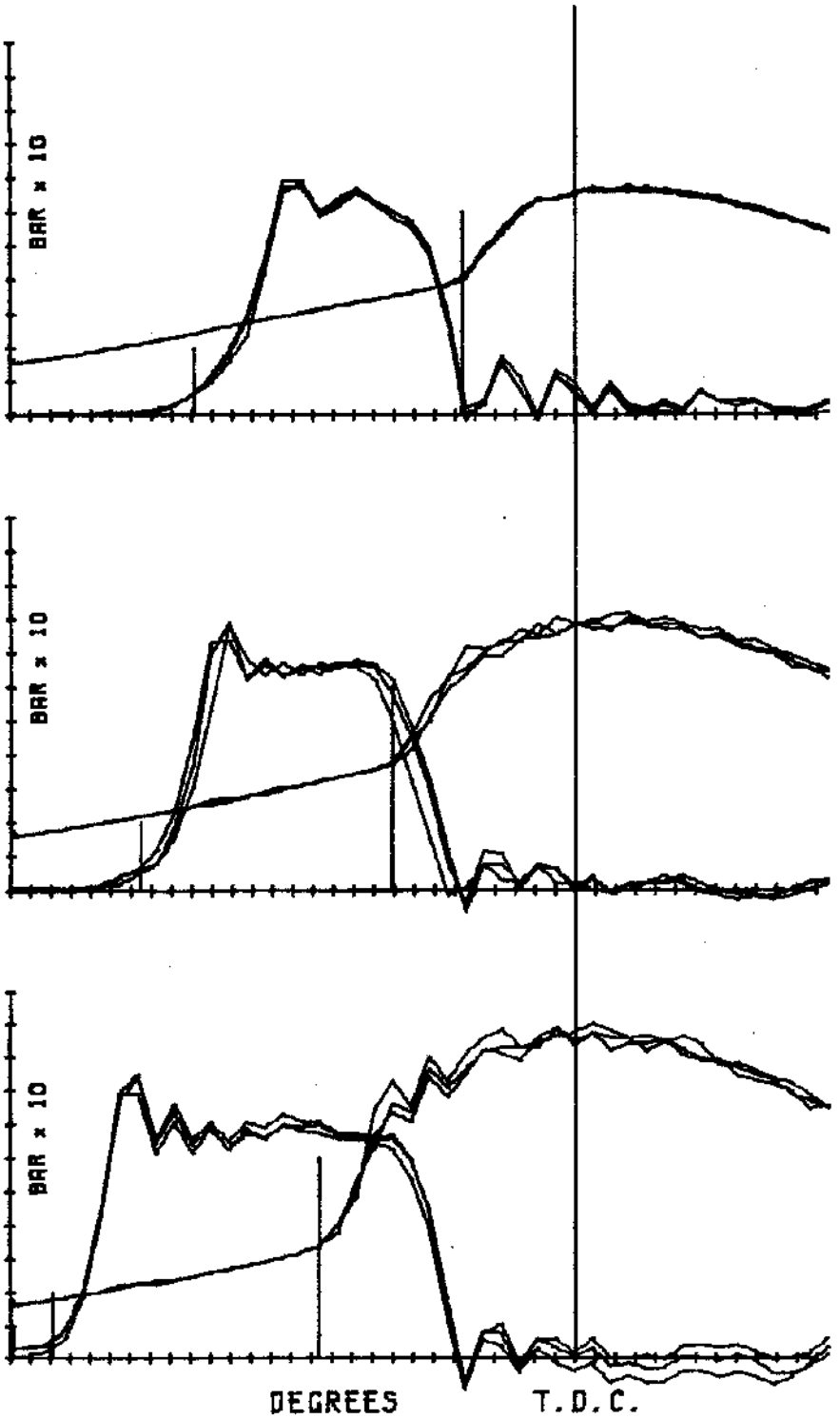
AVERAGE
TORQUE : 165
R.P.M. : 825
START OF
INJN. : 10.2
COMBN. : 5.6
DELAY
DEGREES : 4.6
mS : .948
MAXIMUM
PRESSURE: 79.9
RATE : 6.3
TEMPERATURES
AIR INLET: 29
EXHAUST : 319

ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : DIST 100 C.V. : 42.75 DENSITY : .849
TEST ID. : UNI0012	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP59



AVERAGE
TORQUE : 3
R.P.M. : 828
START OF
INJN. : 8.2
COMBN. : 2.9
DELAY
DEGREES : 6.3
mS : 1.268
MAXIMUM
PRESSURE: 52.3
RATE : 5.7
TEMPERATURES
AIR INLET: 27
EXHAUST : 94

ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : DIST 100 C.V. : 42.75 DENSITY : .849
TEST ID. : UNID012	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP60

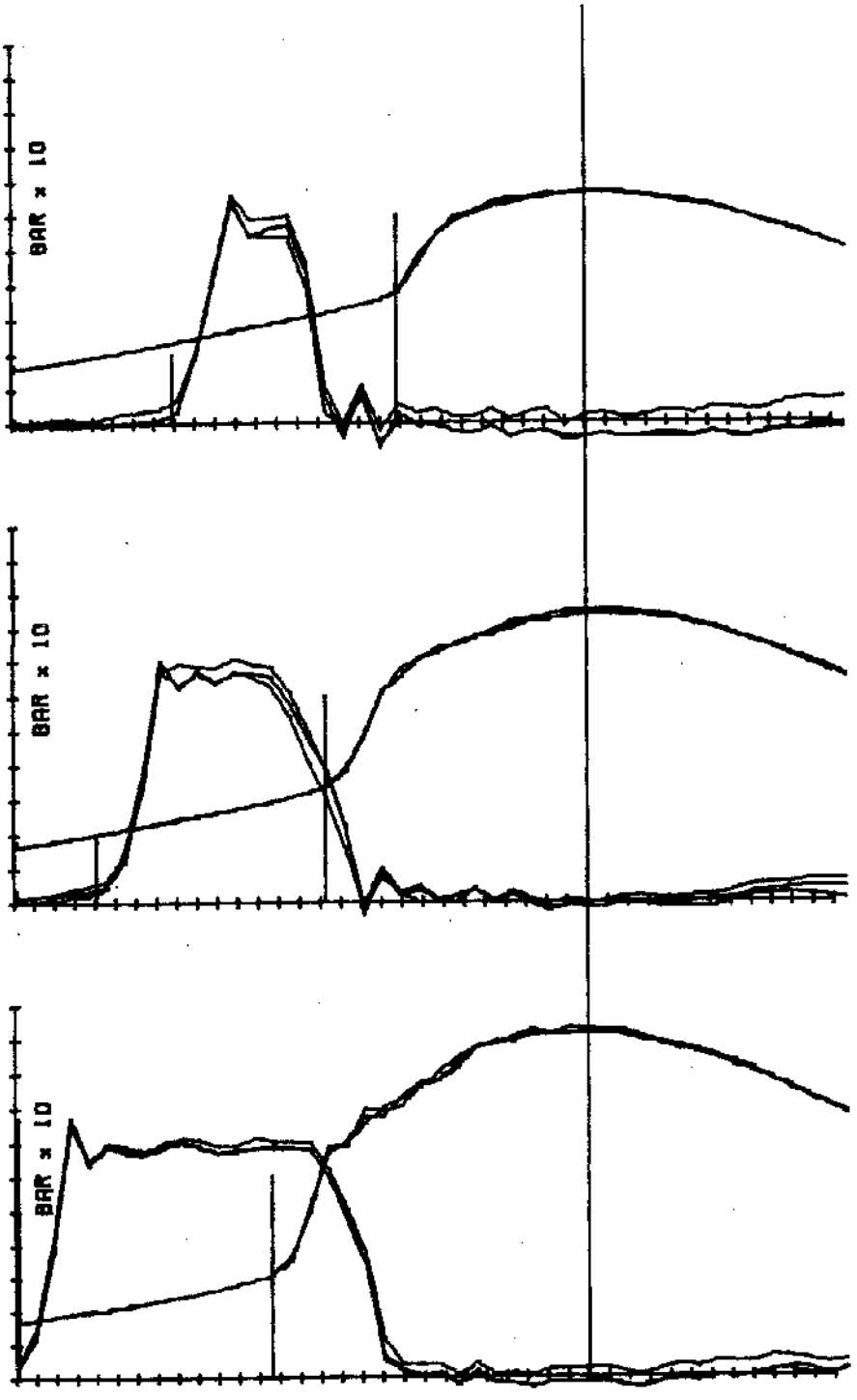


AVERAGE
TORQUE : 37
R.P.M. : 2046
START OF
INJN. : 16.8
COMBN. : 5.6
DELAY
DEGREES : 13.3
mS : 1.081
MAXIMUM
PRESSURE: 66.9
RATE : 7.5
TEMPERATURES
AIR INLET: 28
EXHAUST : 193

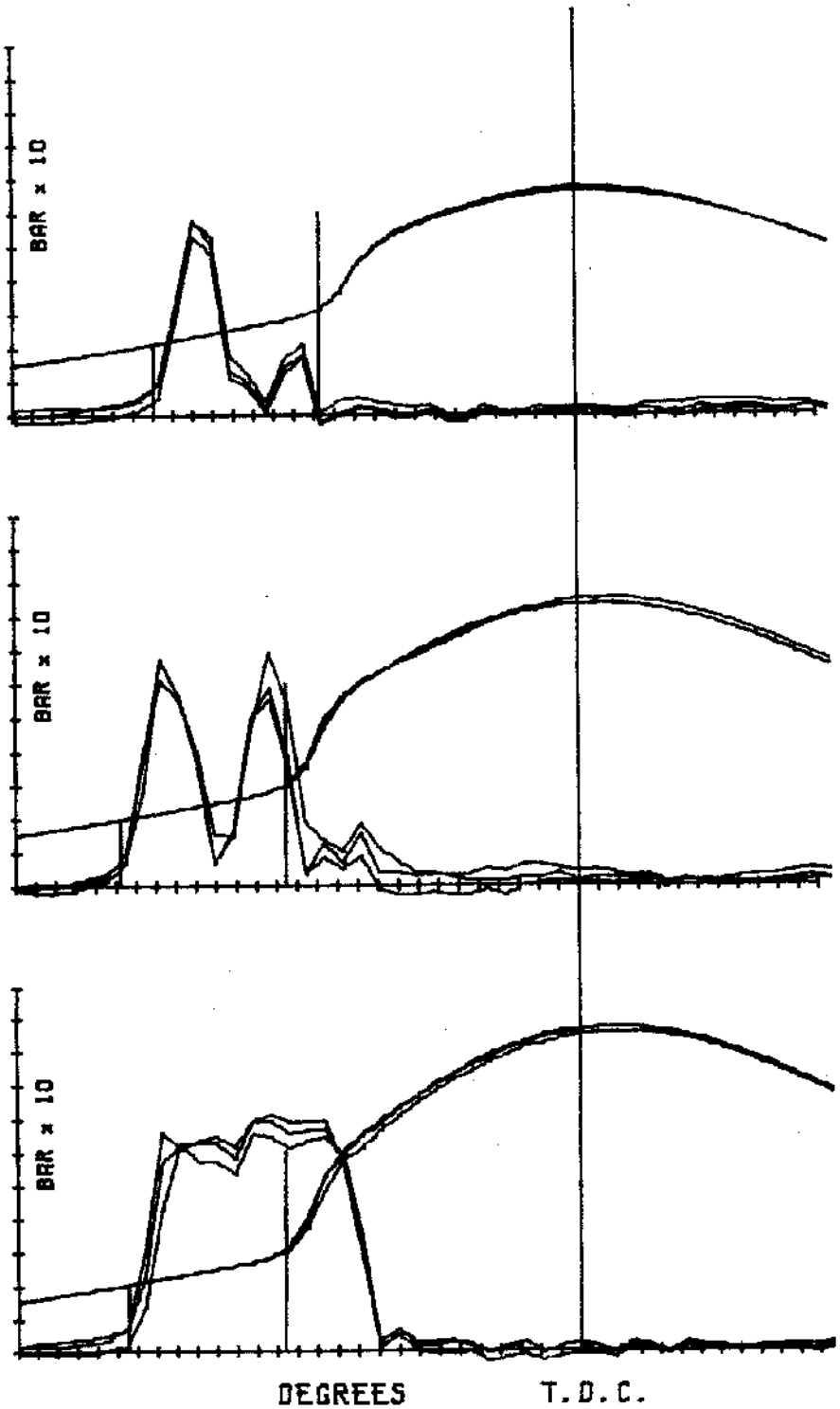
AVERAGE
TORQUE : 92
R.P.M. : 2050
START OF
INJN. : 21.6
COMBN. : 9.1
DELAY
DEGREES : 12.5
mS : 1.013
MAXIMUM
PRESSURE: 80.3
RATE : 11.2
TEMPERATURES
AIR INLET: 29
EXHAUST : 297

AVERAGE
TORQUE : 130
R.P.M. : 2050
START OF
INJN. : 25.9
COMBN. : 12.7
DELAY
DEGREES : 13.2
mS : 1.073
MAXIMUM
PRESSURE: 89.5
RATE : 10.6
TEMPERATURES
AIR INLET: 30
EXHAUST : 410

ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : DIST 100 C.V. : 42.75 DENSITY : .849
TEST ID. : UNID011	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP61



ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : DIST 100 C.V. : 42.75 DENSITY : .849
TEST ID. : UNI0011	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP62

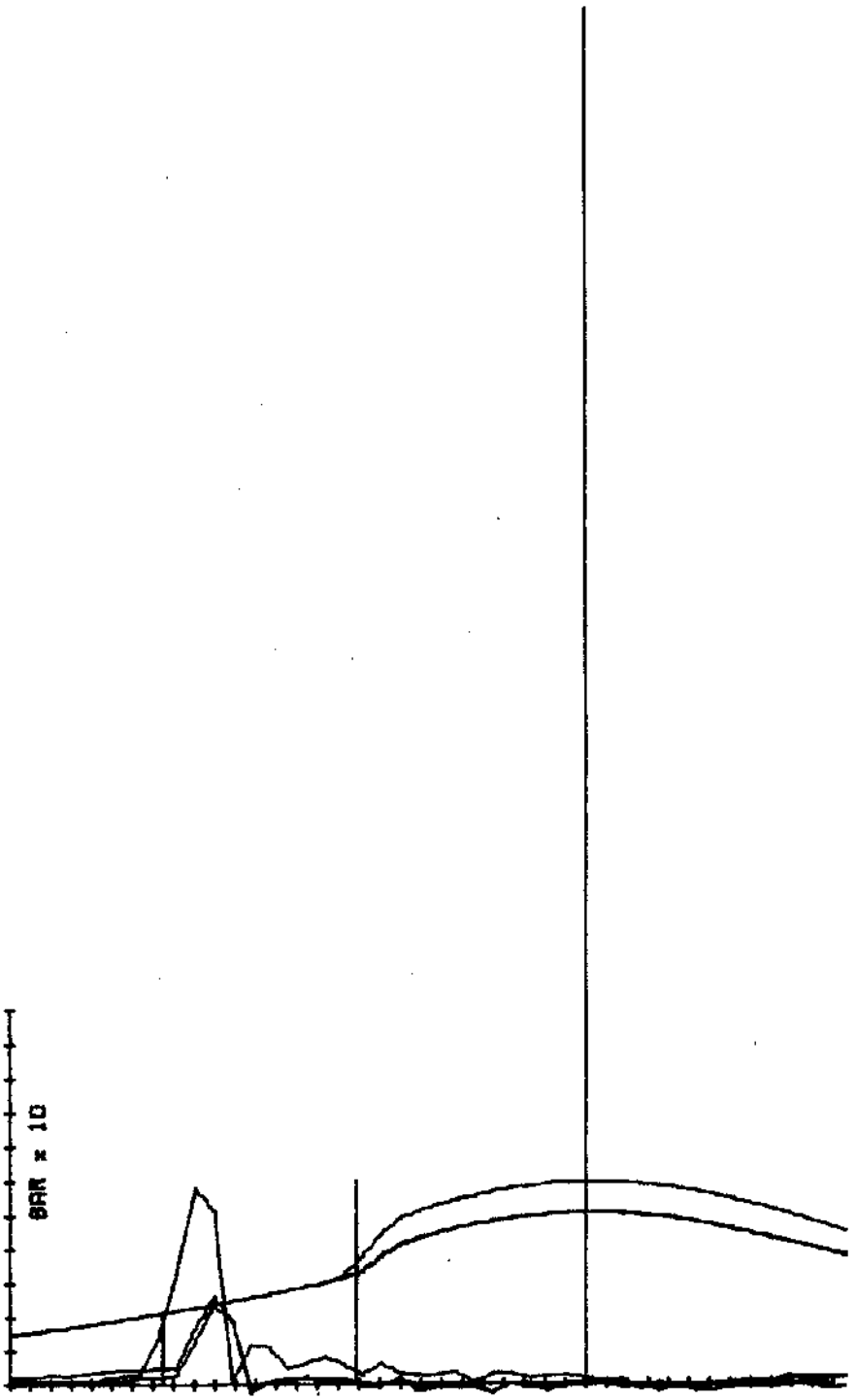


AVERAGE
TORQUE : 36
R.P.M. : 821
START OF
INJN. : 21
COMBN. : 12.7
DELAY
DEGREES : 6.3
mS : 1.877
MAXIMUM
PRESSURE: 67.2
RATE : 6.2
TEMPERATURES
AIR INLET: 26
EXHAUST : 126

AVERAGE
TORQUE : 90
R.P.M. : 815
START OF
INJN. : 22.6
COMBN. : 14.6
DELAY
DEGREES : 6.2
mS : 1.664
MAXIMUM
PRESSURE: 84.2
RATE : 12.1
TEMPERATURES
AIR INLET: 29
EXHAUST : 212

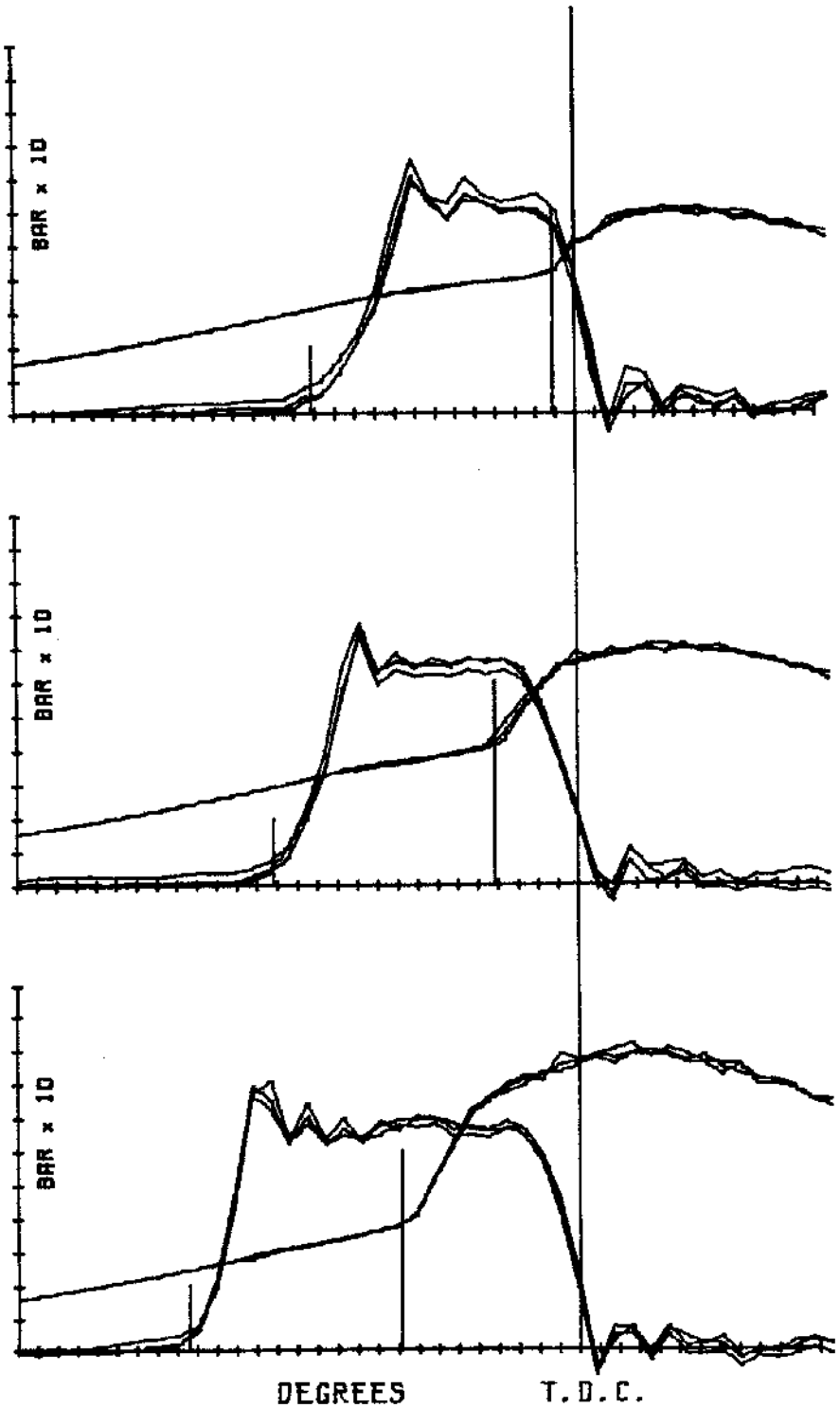
AVERAGE
TORQUE : 146
R.P.M. : 626
START OF
INJN. : 22.5
COMBN. : 14.6
DELAY
DEGREES : 7.9
mS : 1.589
MAXIMUM
PRESSURE: 96.7
RATE : 12.4
TEMPERATURES
AIR INLET: 29
EXHAUST : 324

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : DIST 100 C.V. : 42.75 DENSITY : .849
TEST ID. : UNI0011	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP63



AVERAGE
TORQUE : 3
R.P.M. : 628
START OF
INJN. : 20.5
COMBN. : 11.1
DELAY
DEGREES : 9.4
mS : 1.898
MAXIMUM
PRESSURE: 52.4
RATE : 4.8
TEMPERATURES
AIR INLET: 27
EXHAUST : 99

ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : DIST 100 C.V. : 42.75 DENSITY : .849
TEST ID. : UN10011	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG RP64

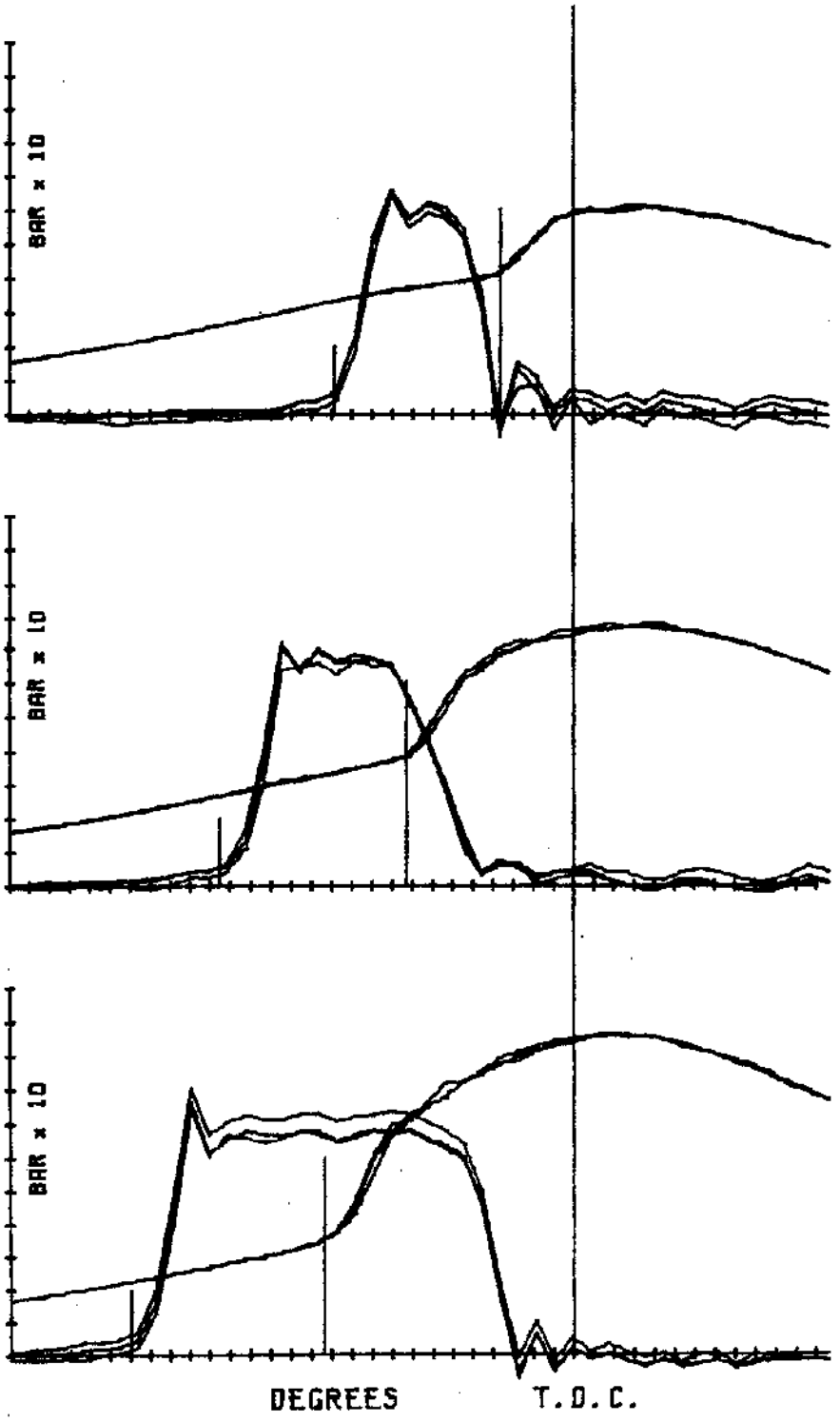


AVERAGE
TORQUE : 36
R.P.M. : 2032
START OF
INJN. : 13.2
COMBN. : 1.1
DELAY
DEGREES : 12.1
mS : .994
MAXIMUM
PRESSURE: 60.1
RATE : 6.9
TEMPERATURES
AIR INLET: 28
EXHAUST : 166

AVERAGE
TORQUE : 66
R.P.M. : 2036
START OF
INJN. : 15.2
COMBN. : 4.1
DELAY
DEGREES : 11.1
mS : .906
MAXIMUM
PRESSURE: 71.2
RATE : 8.8
TEMPERATURES
AIR INLET: 28
EXHAUST : 275

AVERAGE
TORQUE : 140
R.P.M. : 2026
START OF
INJN. : 18.4
COMBN. : 6.9
DELAY
DEGREES : 10.5
mS : .668
MAXIMUM
PRESSURE: 90.8
RATE : 12.4
TEMPERATURES
AIR INLET: 28
EXHAUST : 361

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : TEGON3.9 C.V. : 36.35 DENSITY : .846
TEST ID. : UNIDO14	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP65

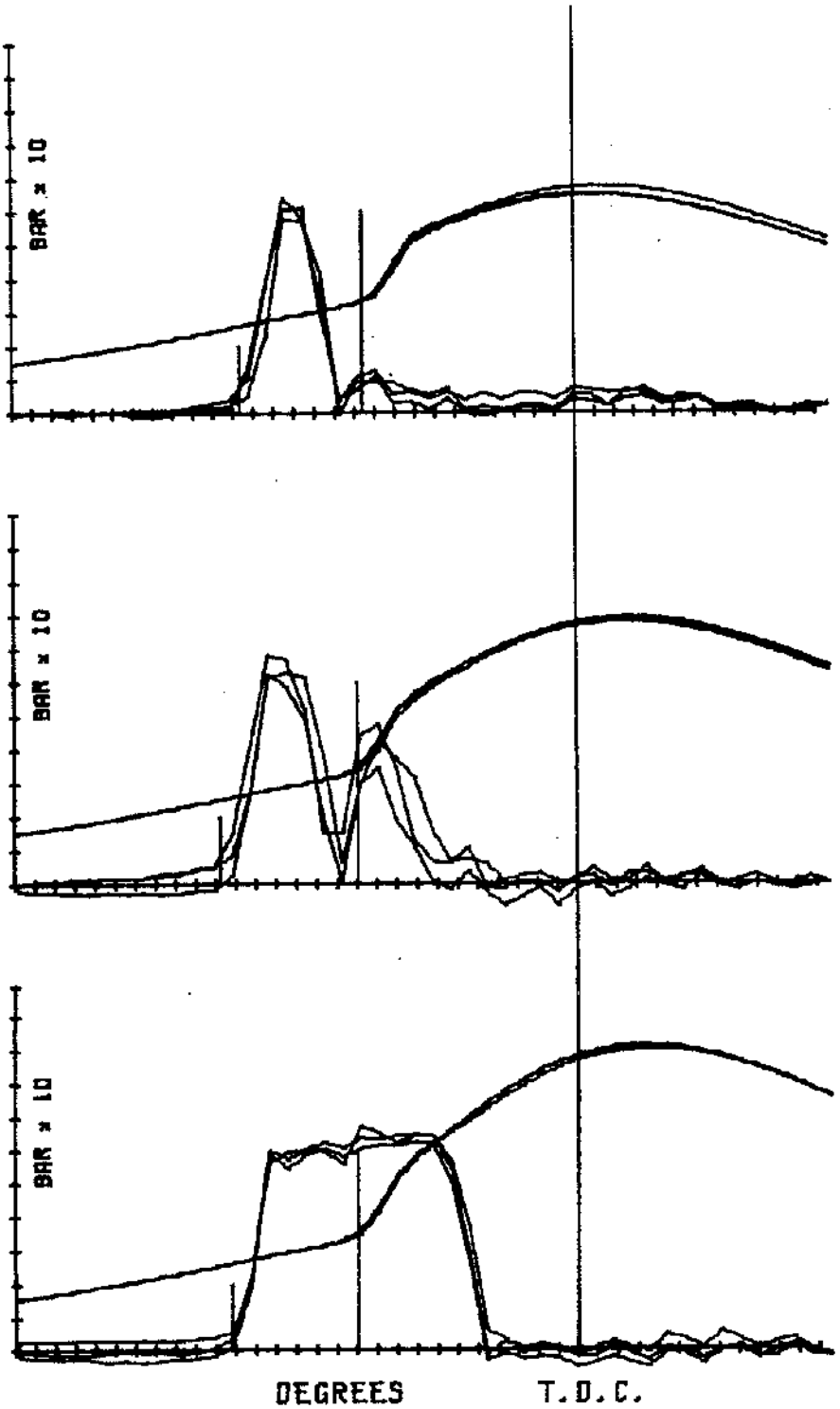


AVERAGE
TORQUE : 35
R.P.M. : 1440
START OF
INJN. : 11.8
COMBN. : 3.6
DELAT
DEGREES : 8.3
mS : .86
MAXIMUM
PRESSURE: 60.5
RATE : 6.2
TEMPERATURES
AIR INLET: 27
EXHAUST : 148

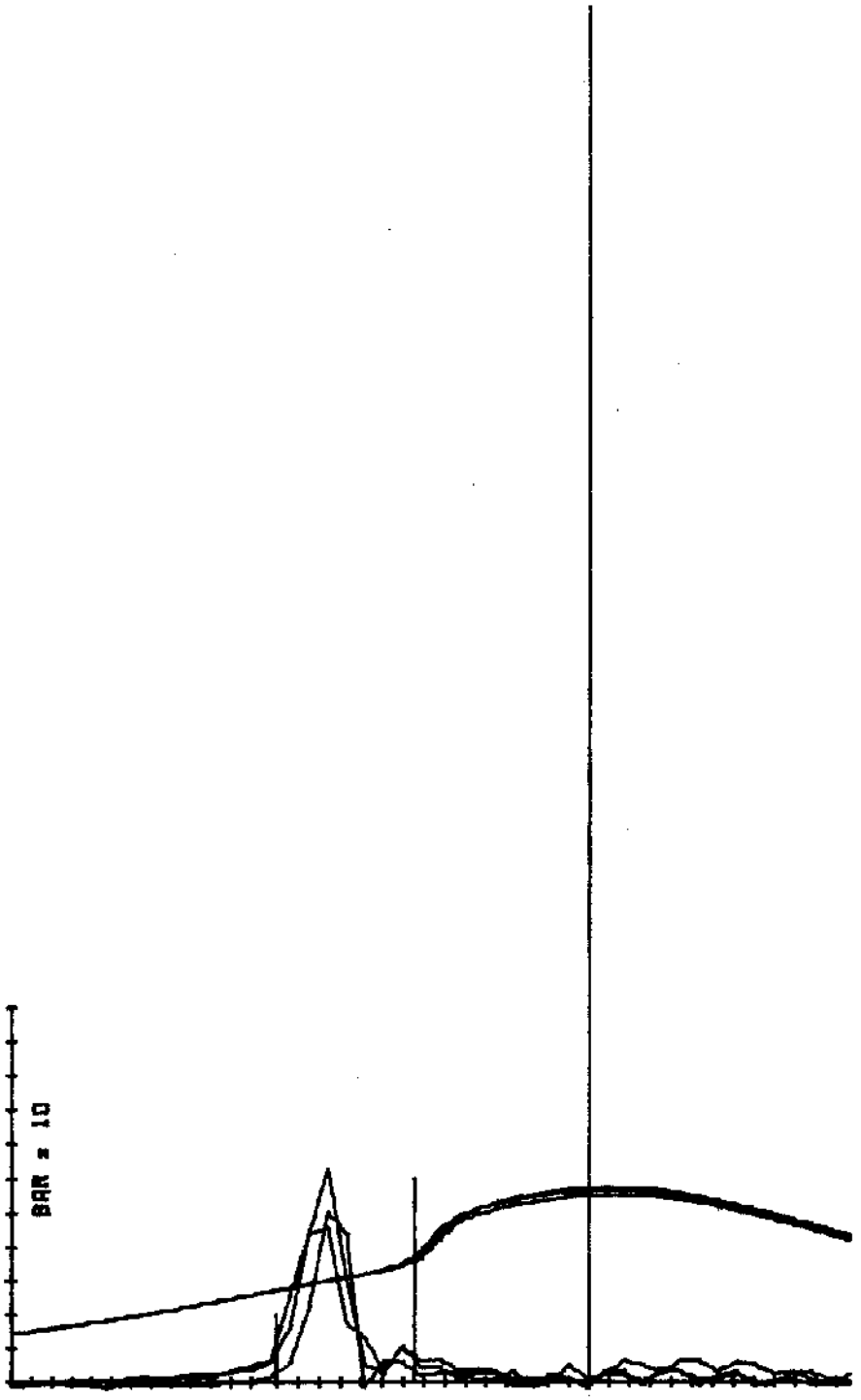
AVERAGE
TORQUE : 85
R.P.M. : 1445
START OF
INJN. : 17.5
COMBN. : 8.3
DELAT
DEGREES : 9.2
mS : 1.066
MAXIMUM
PRESSURE: 78.7
RATE : 8.9
TEMPERATURES
AIR INLET: 29
EXHAUST : 222

AVERAGE
TORQUE : 152
R.P.M. : 1434
START OF
INJN. : 22
COMBN. : 12.4
DELAT
DEGREES : 9.6
mS : 1.115
MAXIMUM
PRESSURE: 95.9
RATE : 13.5
TEMPERATURES
AIR INLET: 30
EXHAUST : 372

ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : TEGDN3.9 C.V. : 38.35 DENSITY : .848
TEST ID. : UN10614	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP66

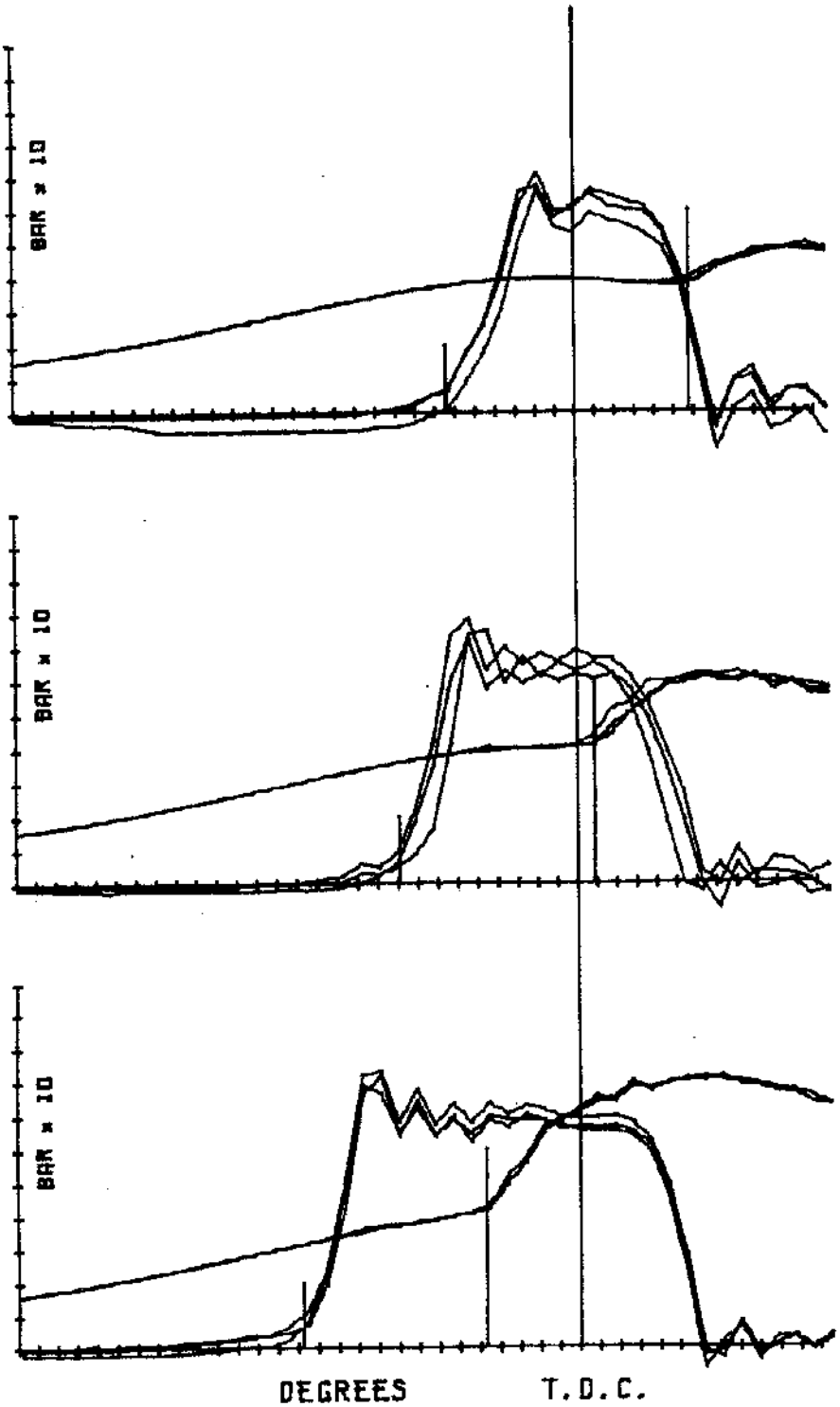


ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : TEGDN3.9 C.V. : 36.35 DENSITY : .846
TEST ID. : UN1D014	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP67

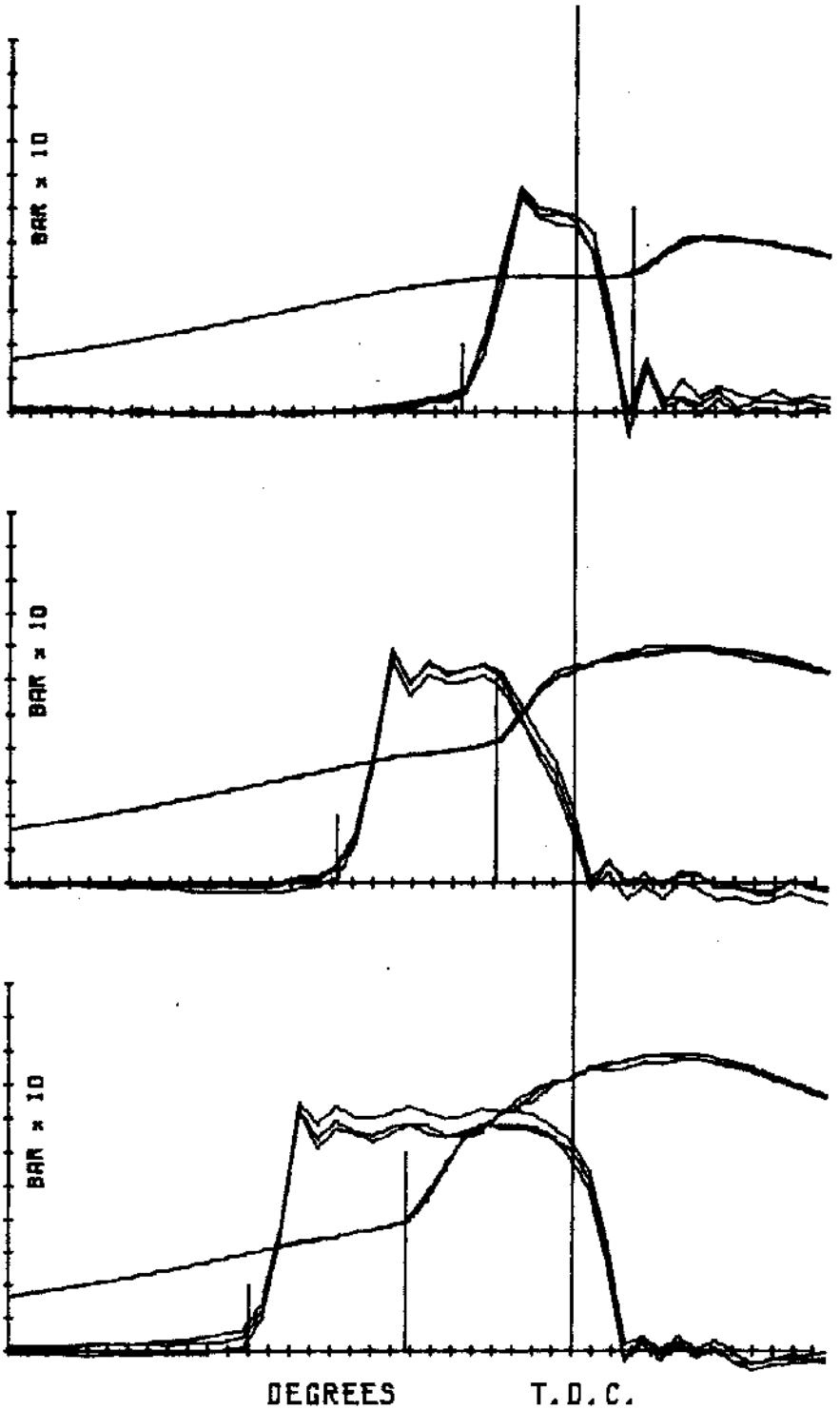


AVERAGE
TORQUE : 3
R.P.M. : 818
START OF
INJN. : 15.1
COMBN. : 6.5
DELAY
DEGREES : 8.6
mS : 1.355
MAXIMUM
PRESSURE: 58.1
RATE : 6.4
TEMPERATURES
AIR INLET: 27
EXHAUST : 88

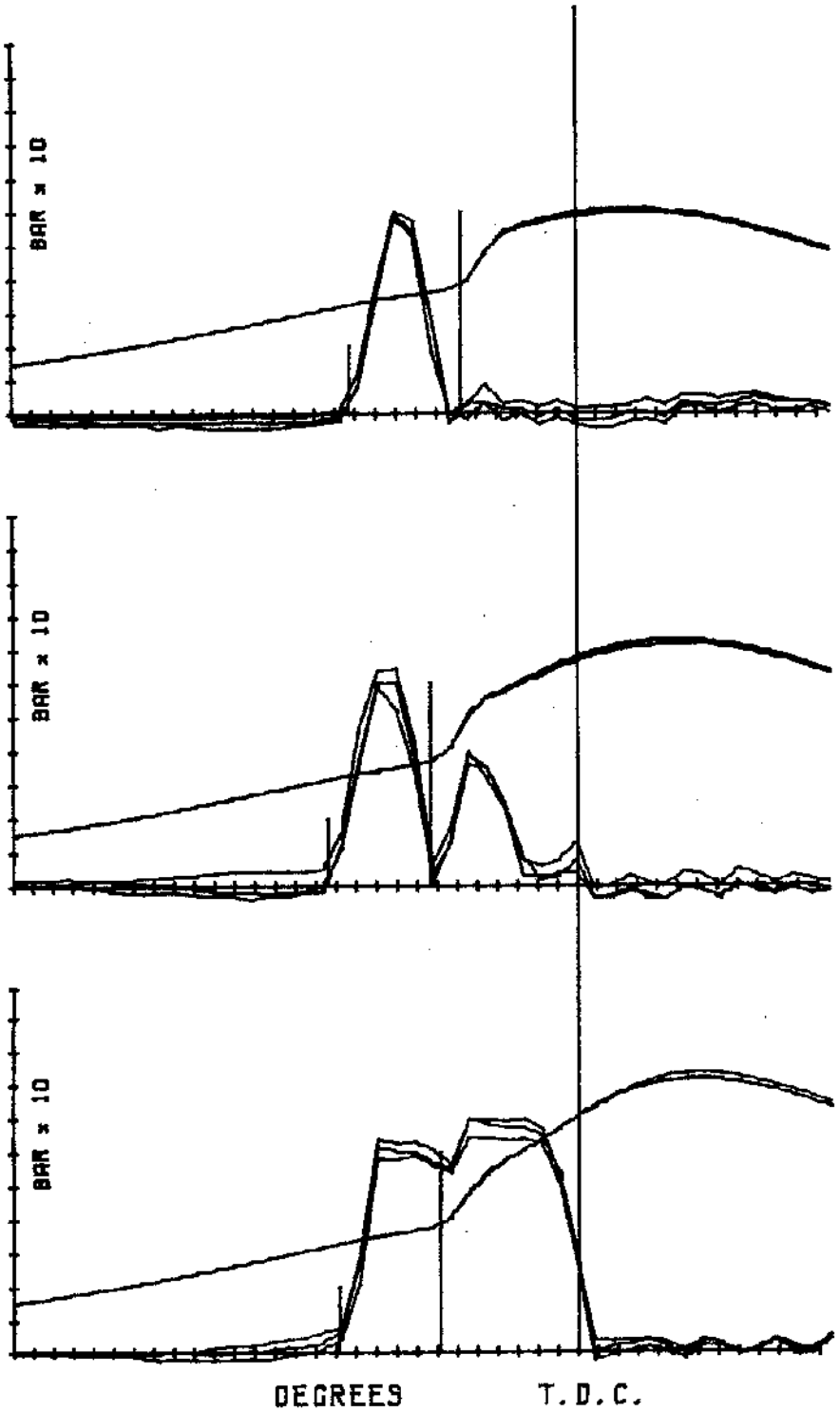
ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : TEGDN3.9 C.V. : 38.35 DENSITY : .848
TEST ID. : UNID014	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP68



ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : TEGDN3.9 C.V. : 38.35 DENSITY : .846
TEST ID. : UNI0013	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP69



ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : TEGDN3.9 C.V. : 38.35 DENSITY : .848
TEST ID. : UNI0013	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP70

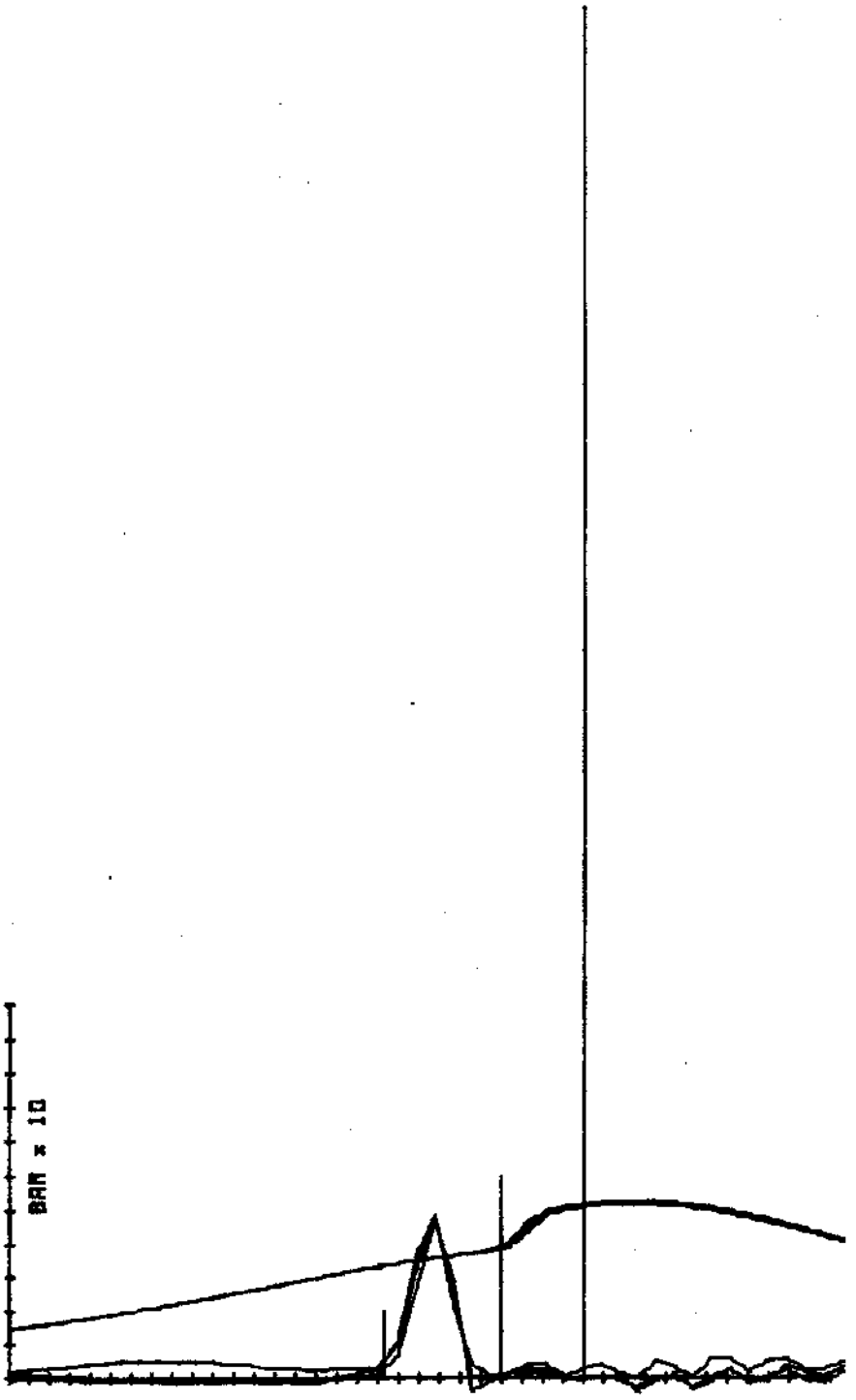


AVERAGE
TORQUE : 36
R.P.M. : 622
START OF
INJN. : 11.3
COMBN. : 5.8
DELAY
DEGREES : 5.5
mS : 1.122
MAXIMUM
PRESSURE: 60.6
RATE : 6.3
TEMPERATURES
AIR INLET: 26
EXHAUST : 126

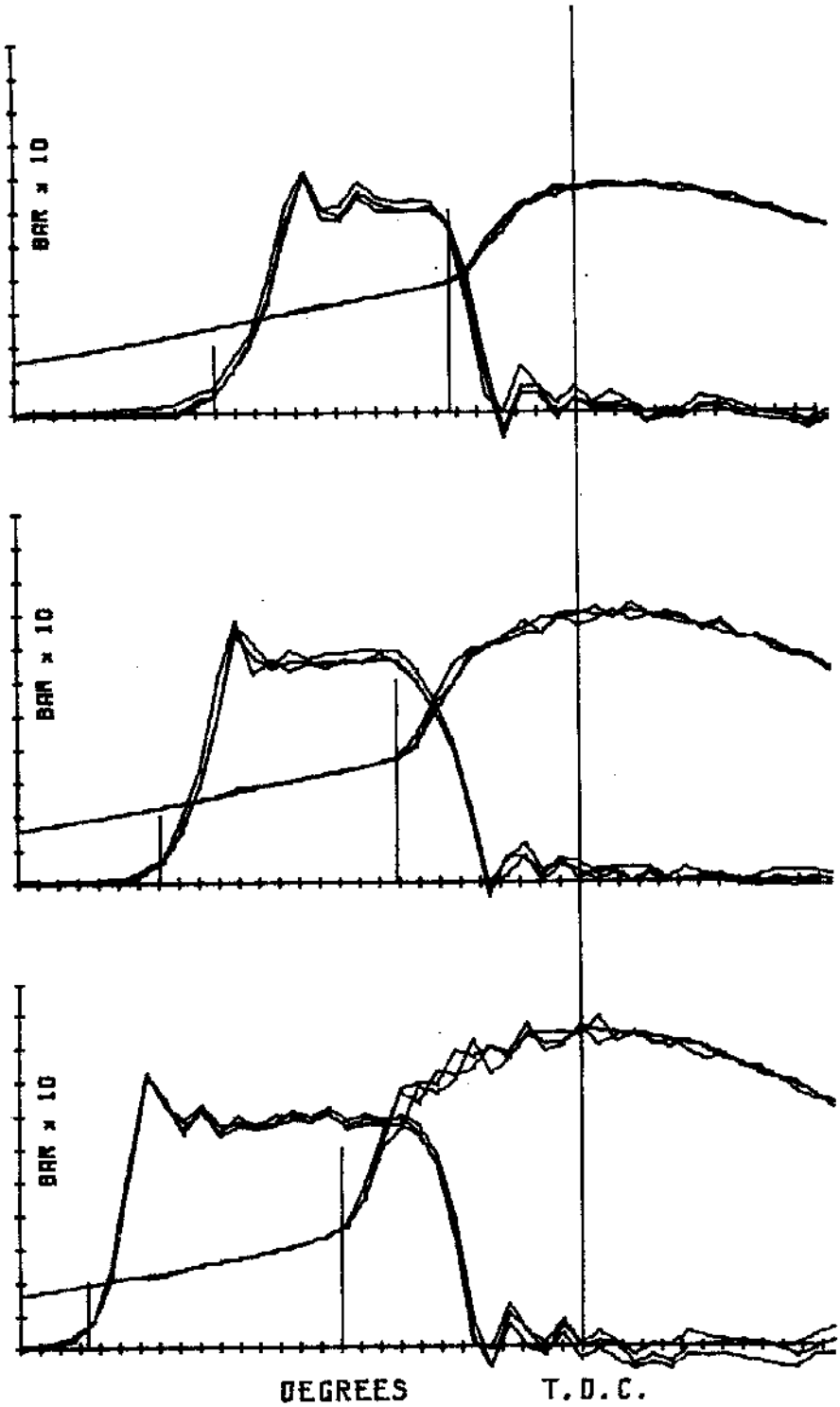
AVERAGE
TORQUE : 93
R.P.M. : 612
START OF
INJN. : 12.4
COMBN. : 7.3
DELAY
DEGREES : 5.1
mS : 1.04
MAXIMUM
PRESSURE: 72.6
RATE : 9.5
TEMPERATURES
AIR INLET: 26
EXHAUST : 197

AVERAGE
TORQUE : 154
R.P.M. : 823
START OF
INJN. : 11.6
COMBN. : 6.9
DELAY
DEGREES : 4.9
mS : 1.009
MAXIMUM
PRESSURE: 62.6
RATE : 7.2
TEMPERATURES
AIR INLET: 29
EXHAUST : 312

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : TEGDN3.9 C.V. : 36.35 DENSITY : .848
TEST ID. : UNID013	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP71



ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : TEGDN3.9 C.V. : 38.35 DENSITY : .846
TEST ID. : UNIDD13	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP72

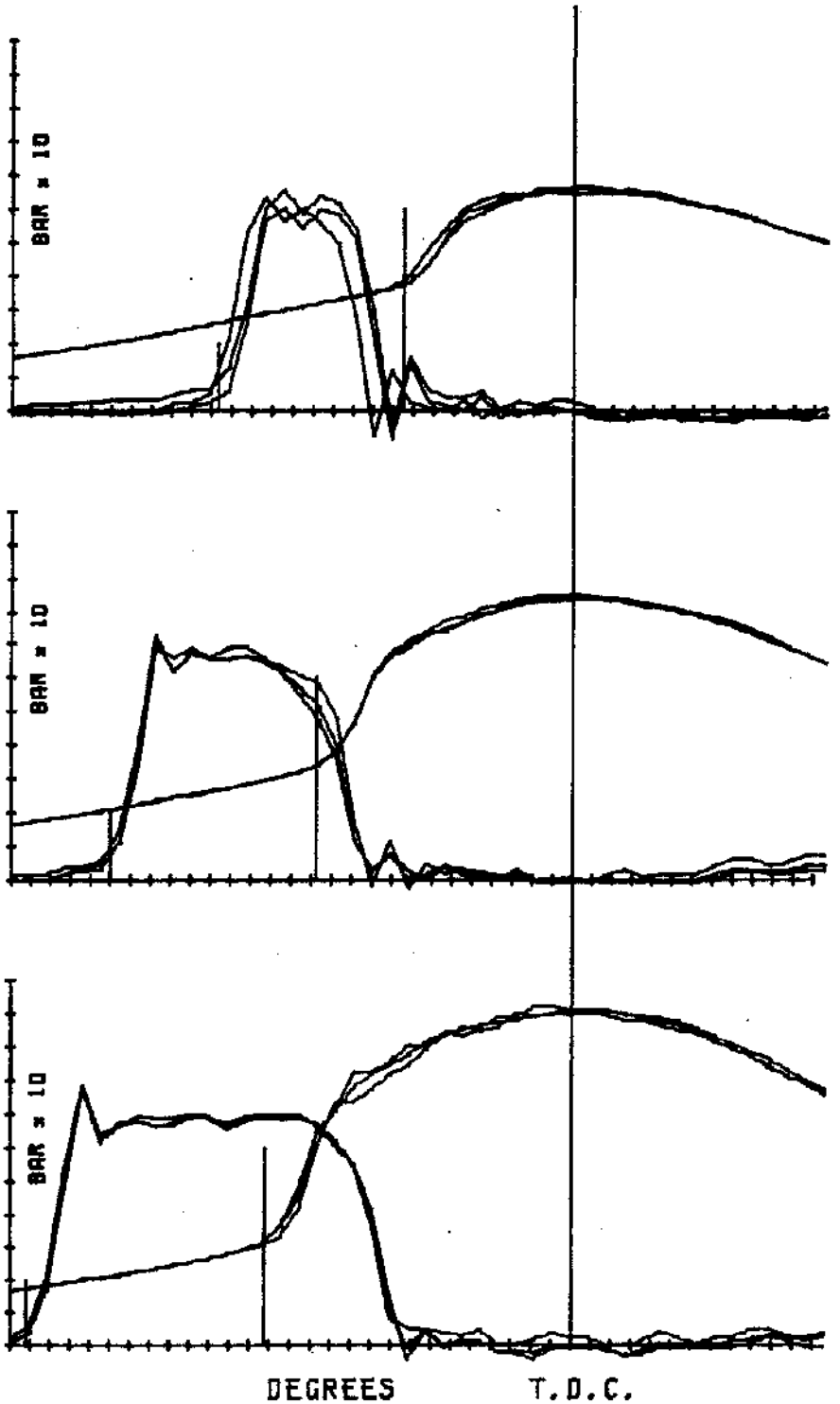


AVERAGE
TORQUE : 38
R.P.M. : 2038
START OF
INJN. : 16.1
COMBN. : 6.3
DELAY
DEGREES : 11.8
mS : .963
MAXIMUM
PRESSURE: 67.9
RATE : 7.8
TEMPERATURES
AIR INLET: 27
EXHAUST : 187

AVERAGE
TORQUE : 91
R.P.M. : 2032
START OF
INJN. : 21
COMBN. : 9.1
DELAY
DEGREES : 11.9
mS : .972
MAXIMUM
PRESSURE: 62.2
RATE : 11.4
TEMPERATURES
AIR INLET: 29
EXHAUST : 271

AVERAGE
TORQUE : 127
R.P.M. : 2019
START OF
INJN. : 24.6
COMBN. : 12
DELAY
DEGREES : 12.6
mS : 1.042
MAXIMUM
PRESSURE: 97.4
RATE : 17.4
TEMPERATURES
AIR INLET: 28
EXHAUST : 377

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : TEGDN3.9 C.V. : 38.35 DENSITY : .848
TEST ID. : UNI0015	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP73

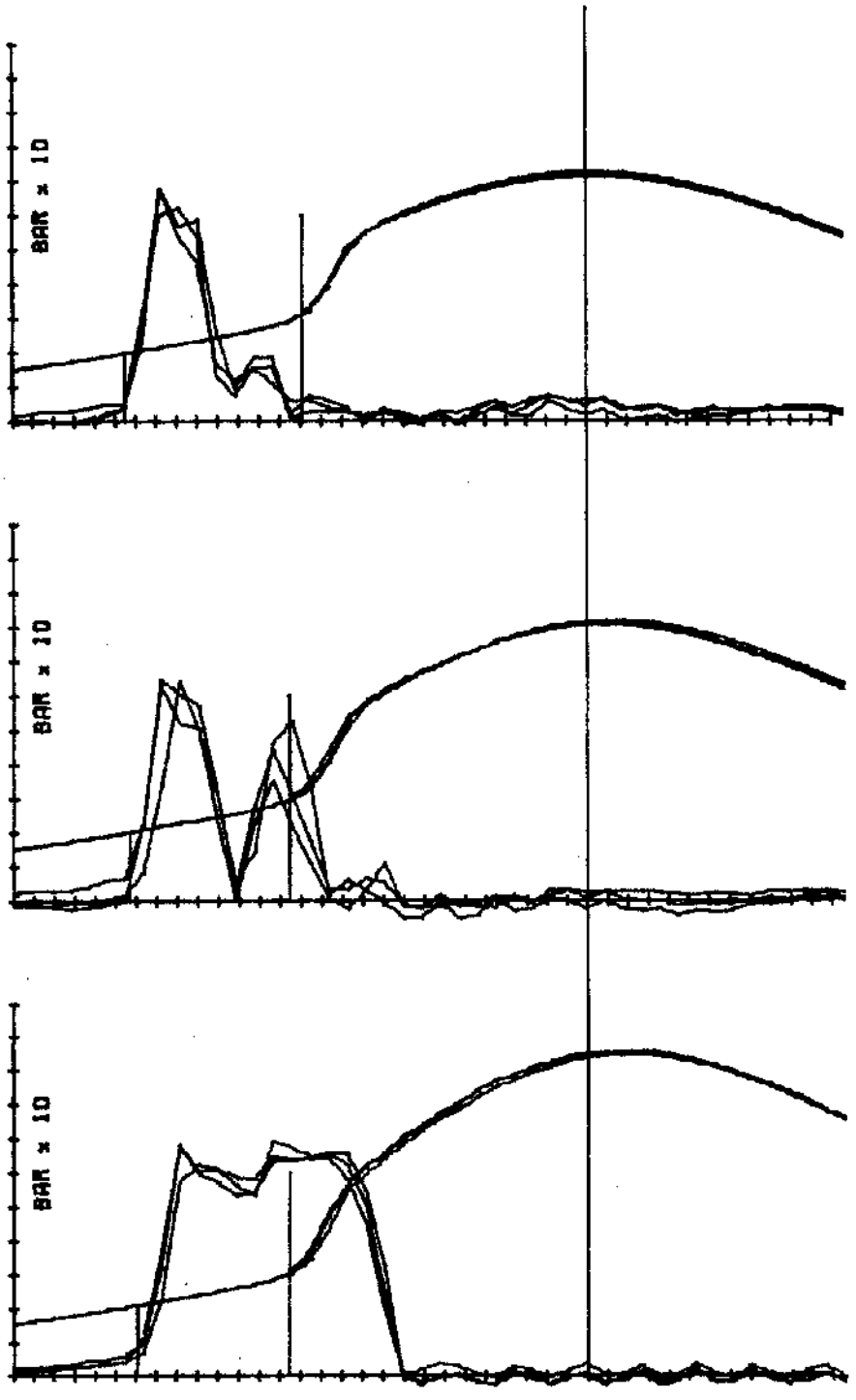


AVERAGE
TORQUE : 37
R.P.M. : 1441
START OF
INJN. : 17.8
COMBN. : 6.4
DELAY
DEGREES : 8.2
mS : 1.004
MAXIMUM
PRESSURE: 65.6
RATE : 6
TEMPERATURES
AIR INLET: 27
EXHAUST : 150

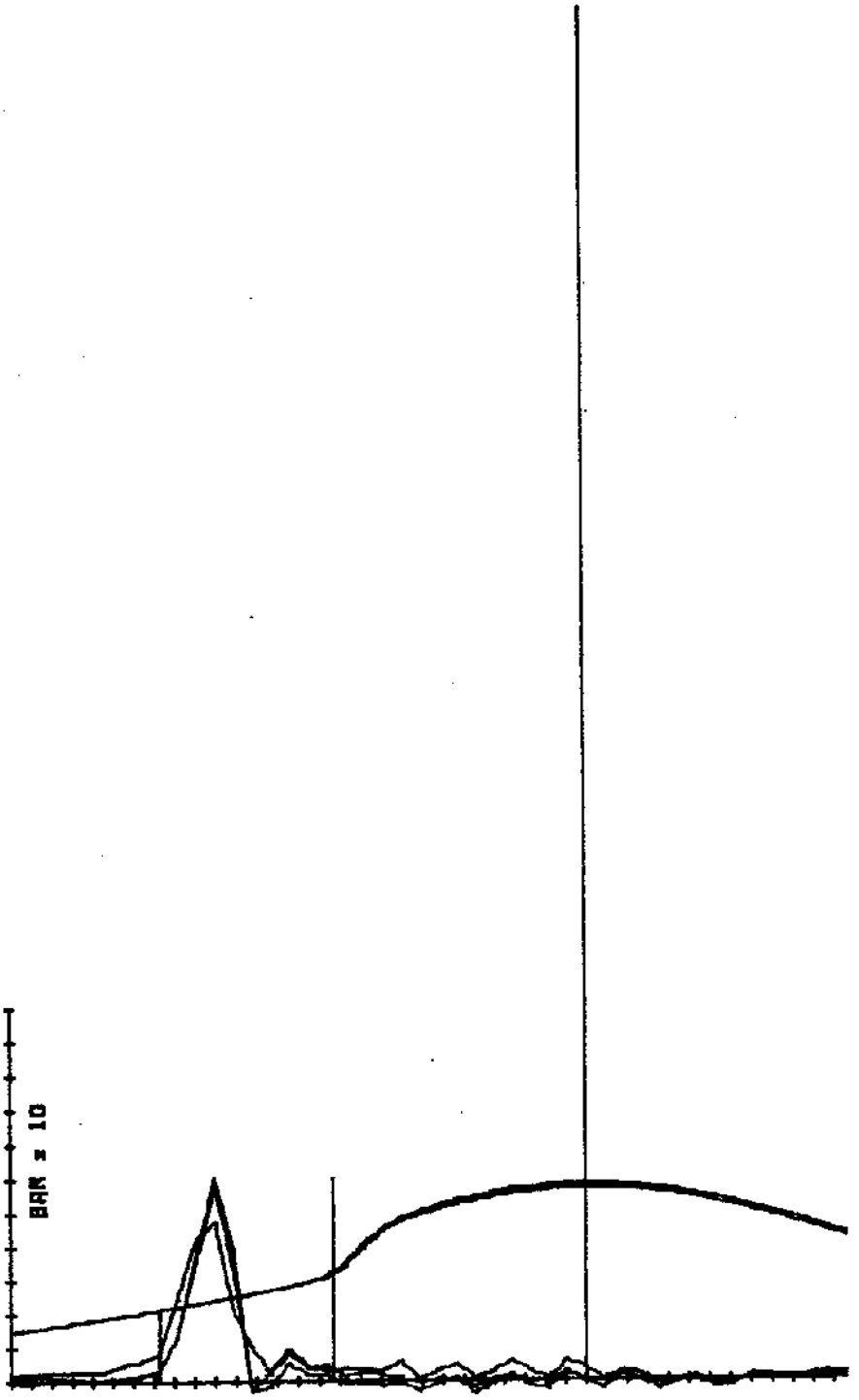
AVERAGE
TORQUE : 81
R.P.M. : 1428
START OF
INJN. : 23
COMBN. : 12.7
DELAY
DEGREES : 10.3
mS : 1.202
MAXIMUM
PRESSURE: 85.4
RATE : 13
TEMPERATURES
AIR INLET: 26
EXHAUST : 232

AVERAGE
TORQUE : 142
R.P.M. : 1447
START OF
INJN. : 27.2
COMBN. : 15.2
DELAY
DEGREES : 12
mS : 1.378
MAXIMUM
PRESSURE: 101.7
RATE : 16.2
TEMPERATURES
AIR INLET: 28
EXHAUST : 389

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : TEGDN3.9 C.V. : 36.35 DENSITY : .848
TEST ID. : UNIDO15	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP74

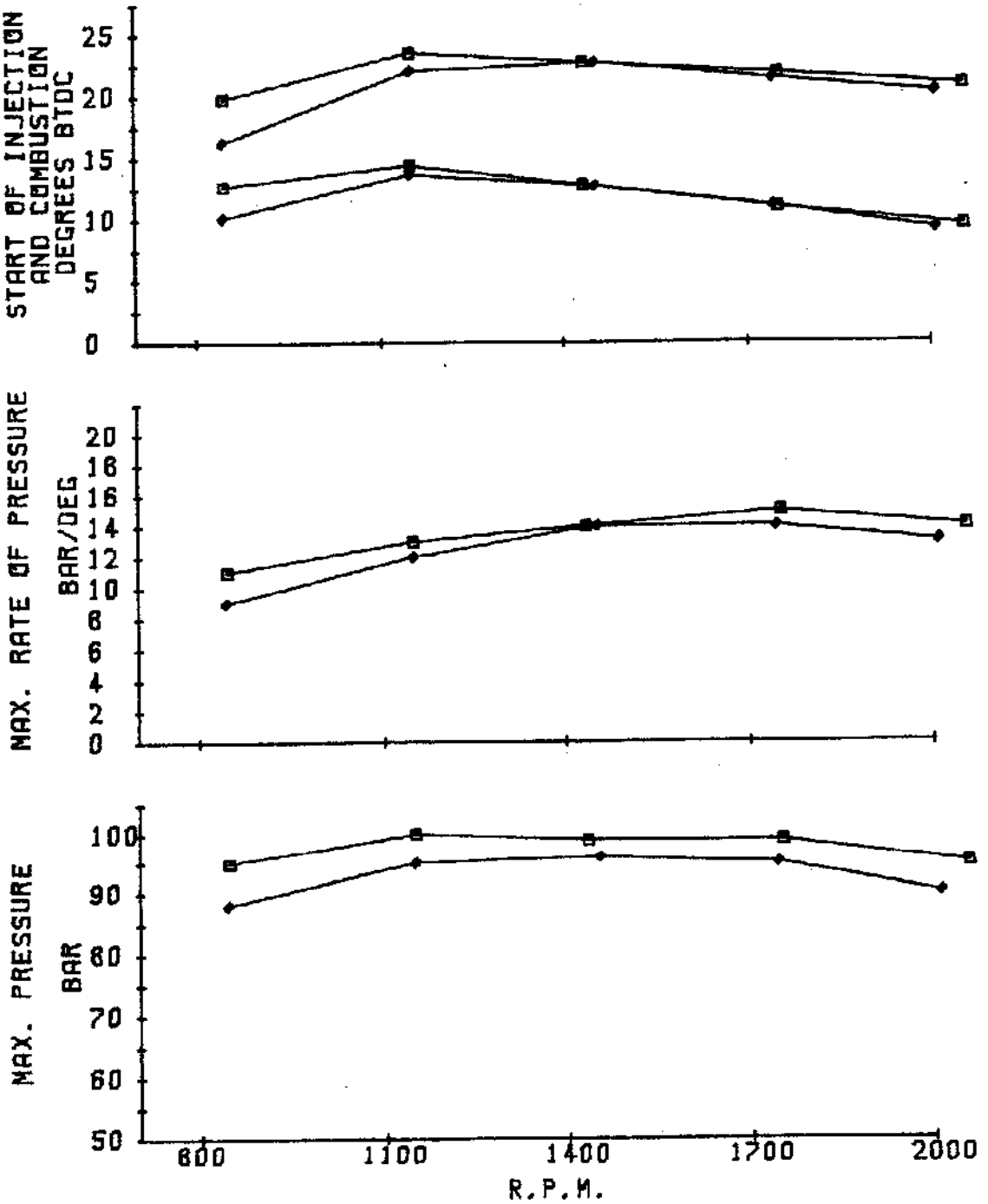


ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : TEGDN3.9 C.V. : 38.35 DENSITY : .846
TEST ID. : UNIDD15	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP75

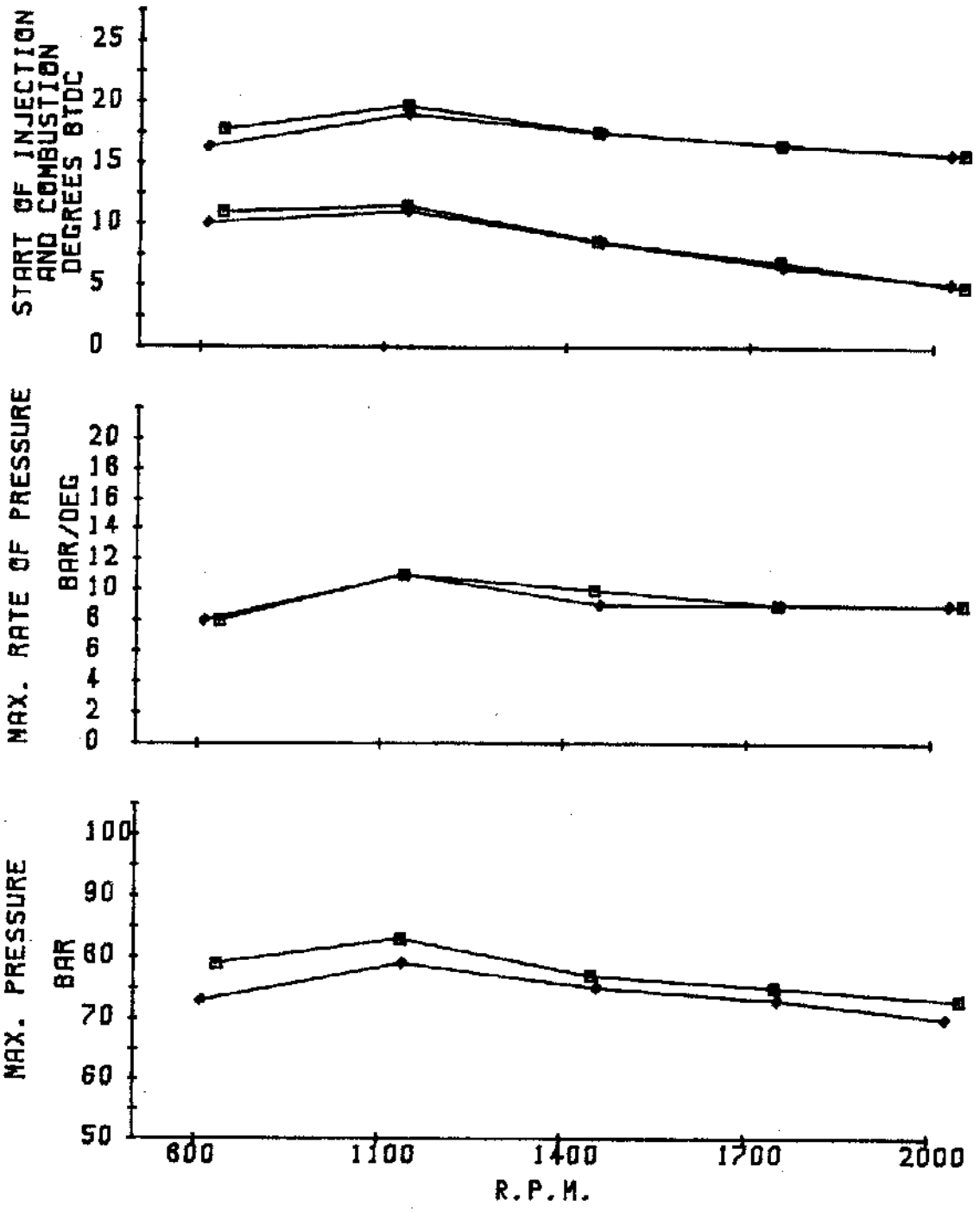


AVERAGE
TORQUE : 3
R.P.M. : 629
START OF
INJN. : 20.7
COMBN. : 12.3
DELAY
DEGREES : 8.4
mS : 1.68
MAXIMUM
PRESSURE: 57.2
RATE : 5.8
TEMPERATURES
AIR INLET: 28
EXHAUST : 69

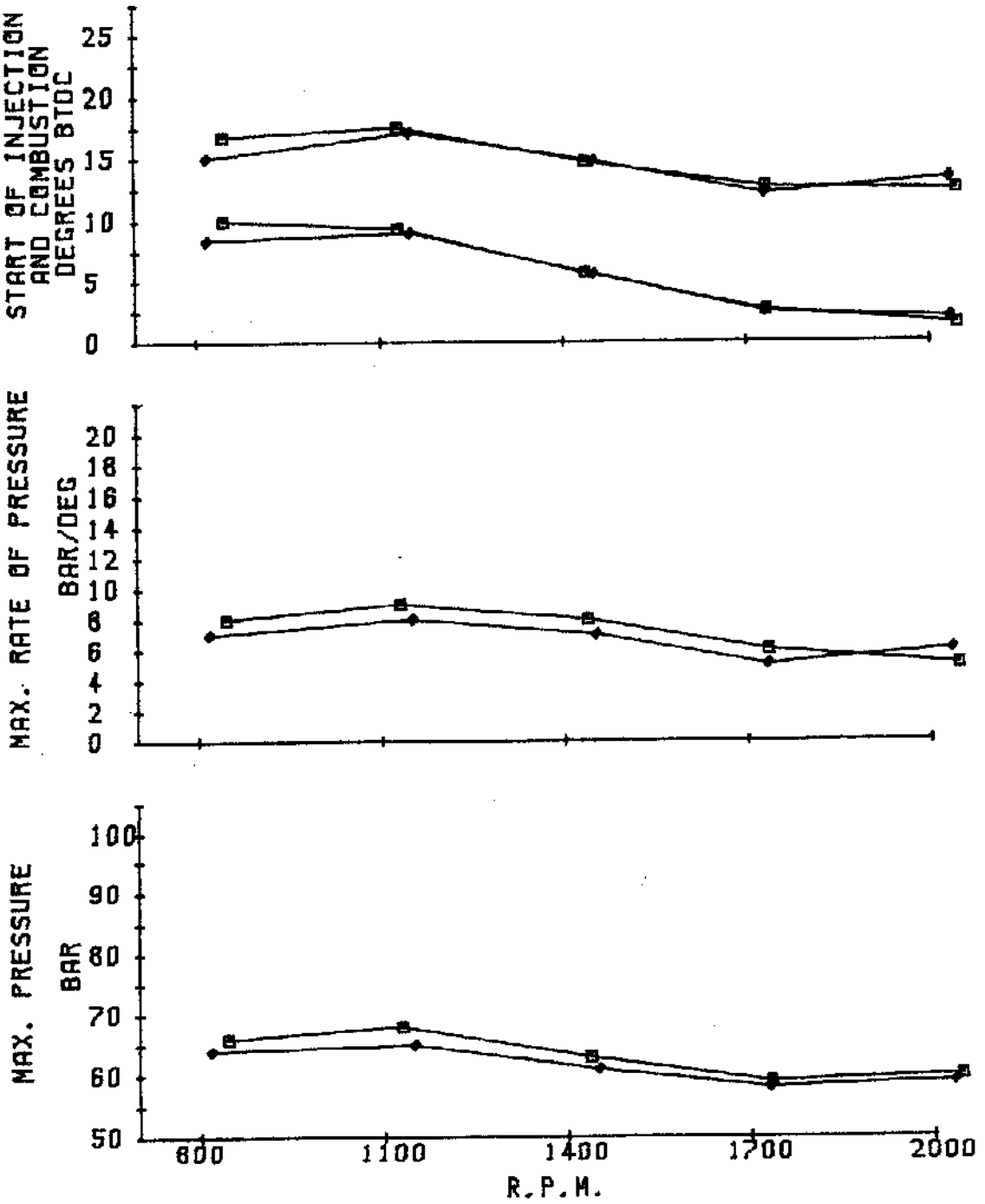
ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : TEGDN3.9 C.V. : 38.35 DENSITY : .848
TEST ID. : UNI0015	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP76



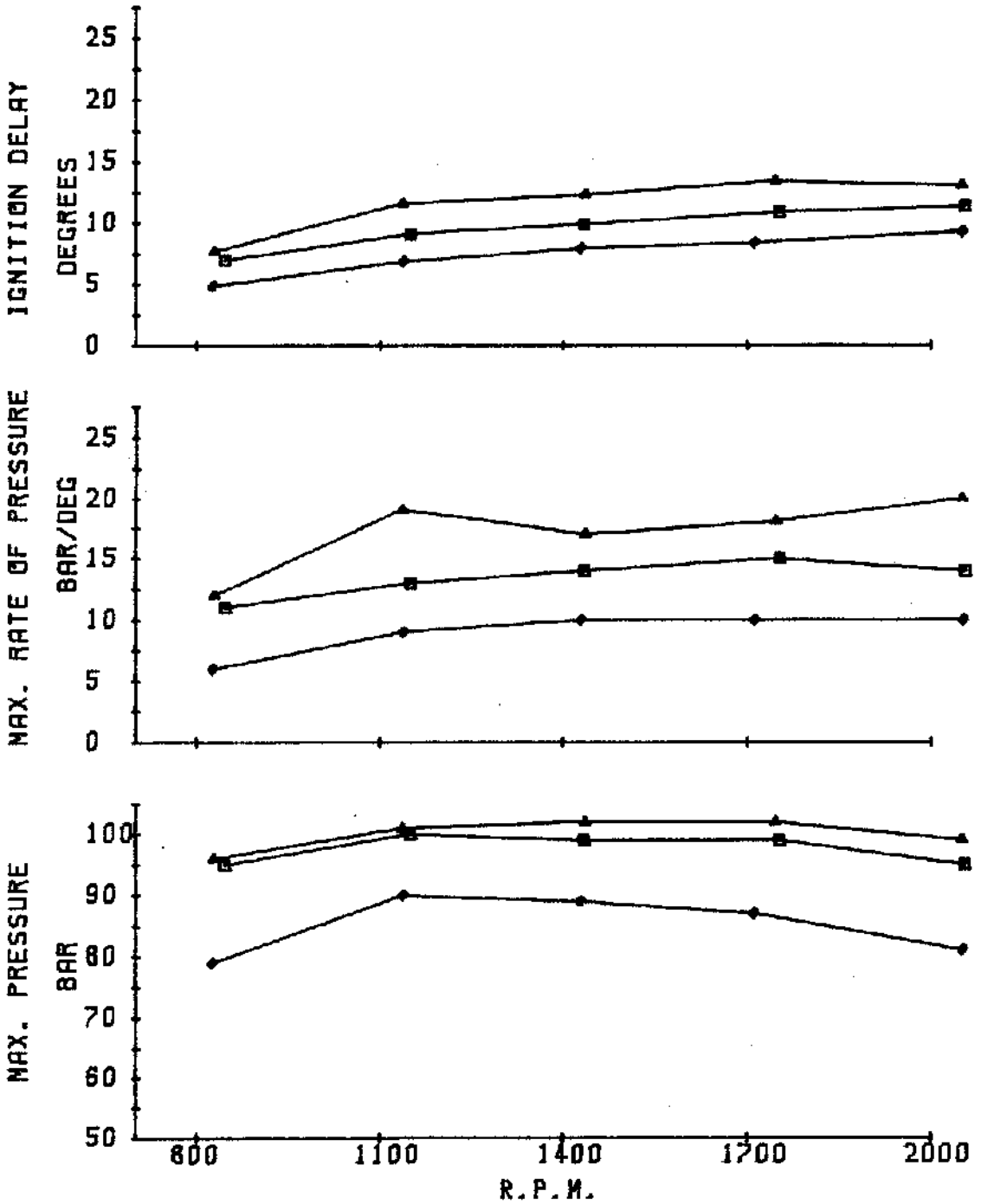
ENGINE : FORD 3000 CAPACITY: 2660	♦ 22/5/85 □ 10/5/85
LONG TERM DIST 100 REPEATABILITY OF START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	FULL LOAD FIG AP77



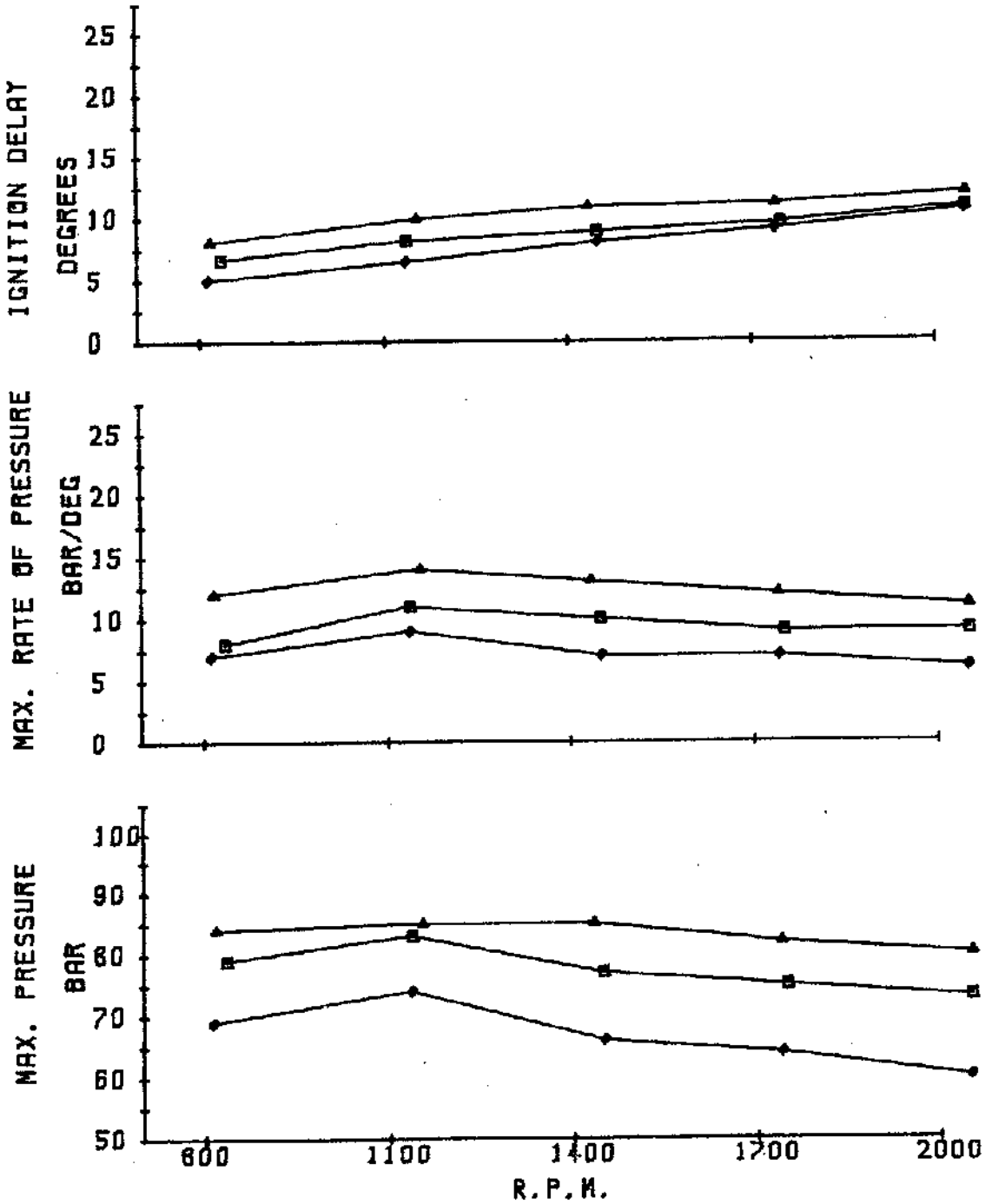
ENGINE : FORD 3000 CAPACITY: 2660	• 22/5/85 ▫ 10/5/85
LONG TERM DIST 100 REPEATABILITY OF START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	2/3 LOAD FIG AP76



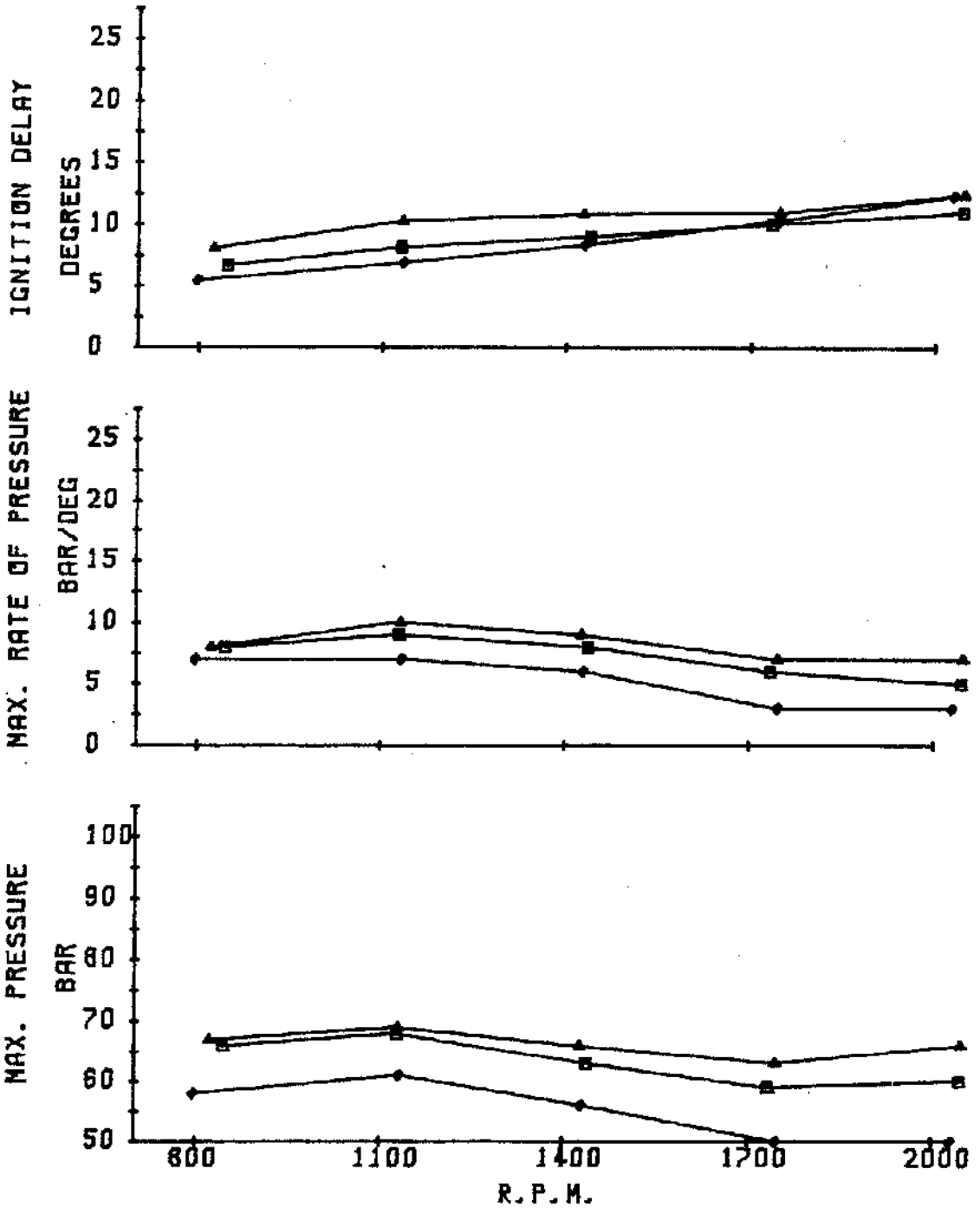
ENGINE : FORD 3000 CAPACITY: 2860	◆ 22/5/85 ■ 10/5/85
LONG TERM DIST 100 REPEATABILITY OF START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	1/3 LOAD FIG AP79



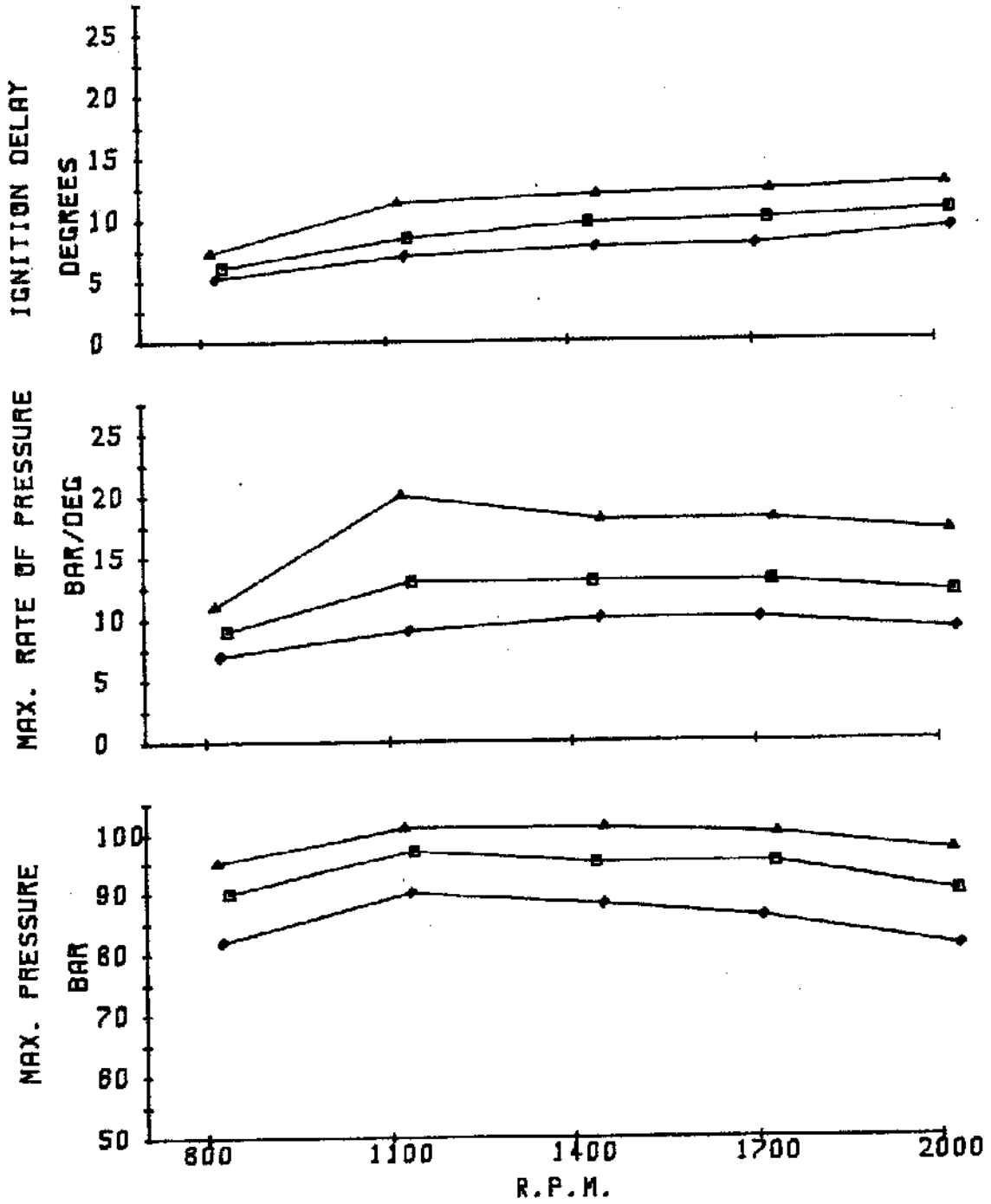
ENGINE : FORD 3000 CAPACITY: 2860	• 14 deg BTDC ▪ 20 deg BTDC ▲ 26 deg BTDC 100 DIST FULL LOAD
EFFECT OF STATIC TIMING ON IGNITION DELAY, MAX. PRESSURE & PRESSURE RATE	FIG AP80



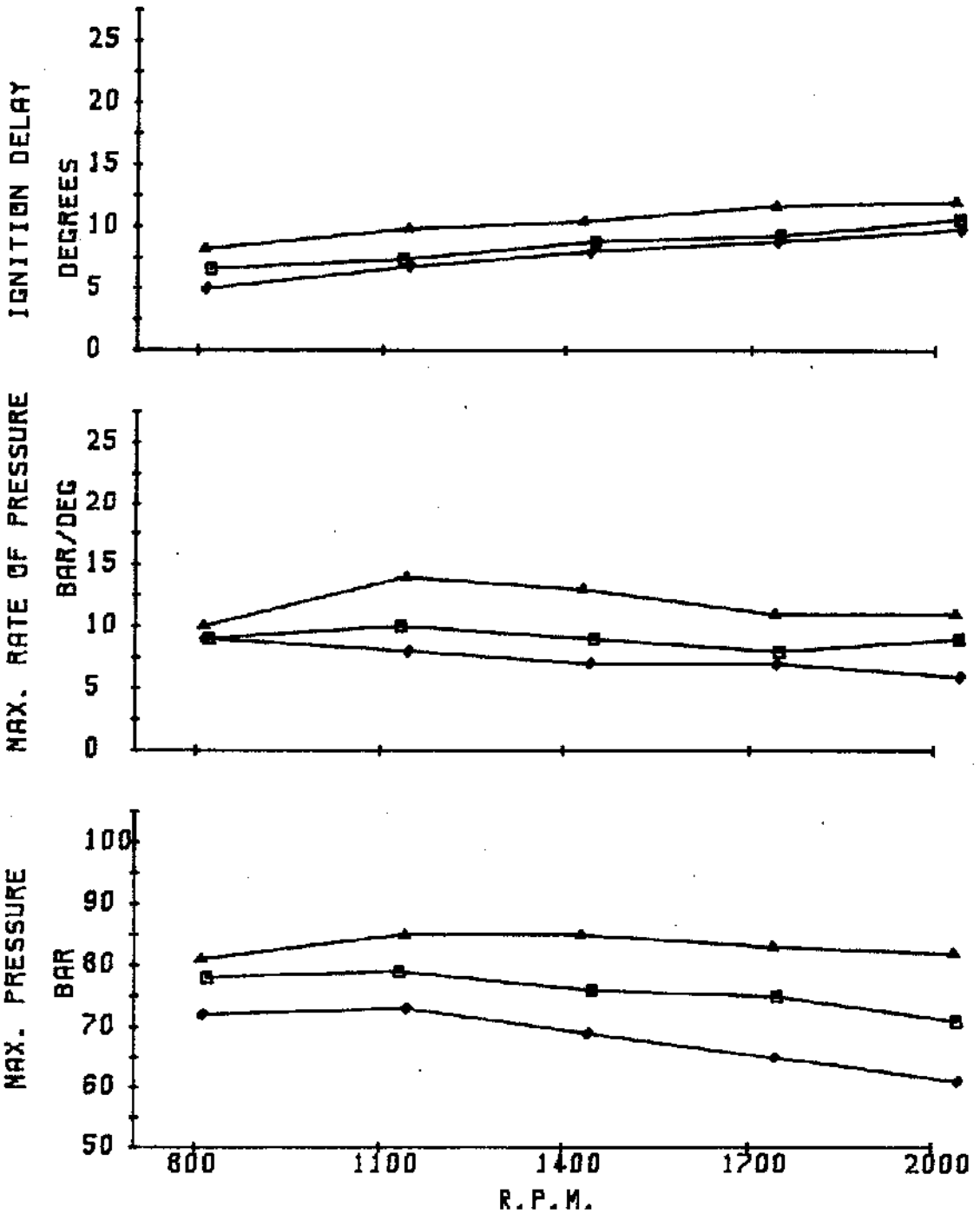
ENGINE : FORD 3000 CAPACITY: 2660	◆ 14 deg BTDC ■ 20 deg BTDC ▲ 26 deg BTDC 100 DIST 2/3 LOAD
EFFECT OF STATIC TIMING ON IGNITION DELAY, MAX. PRESSURE & PRESSURE RATE	FIG AP81



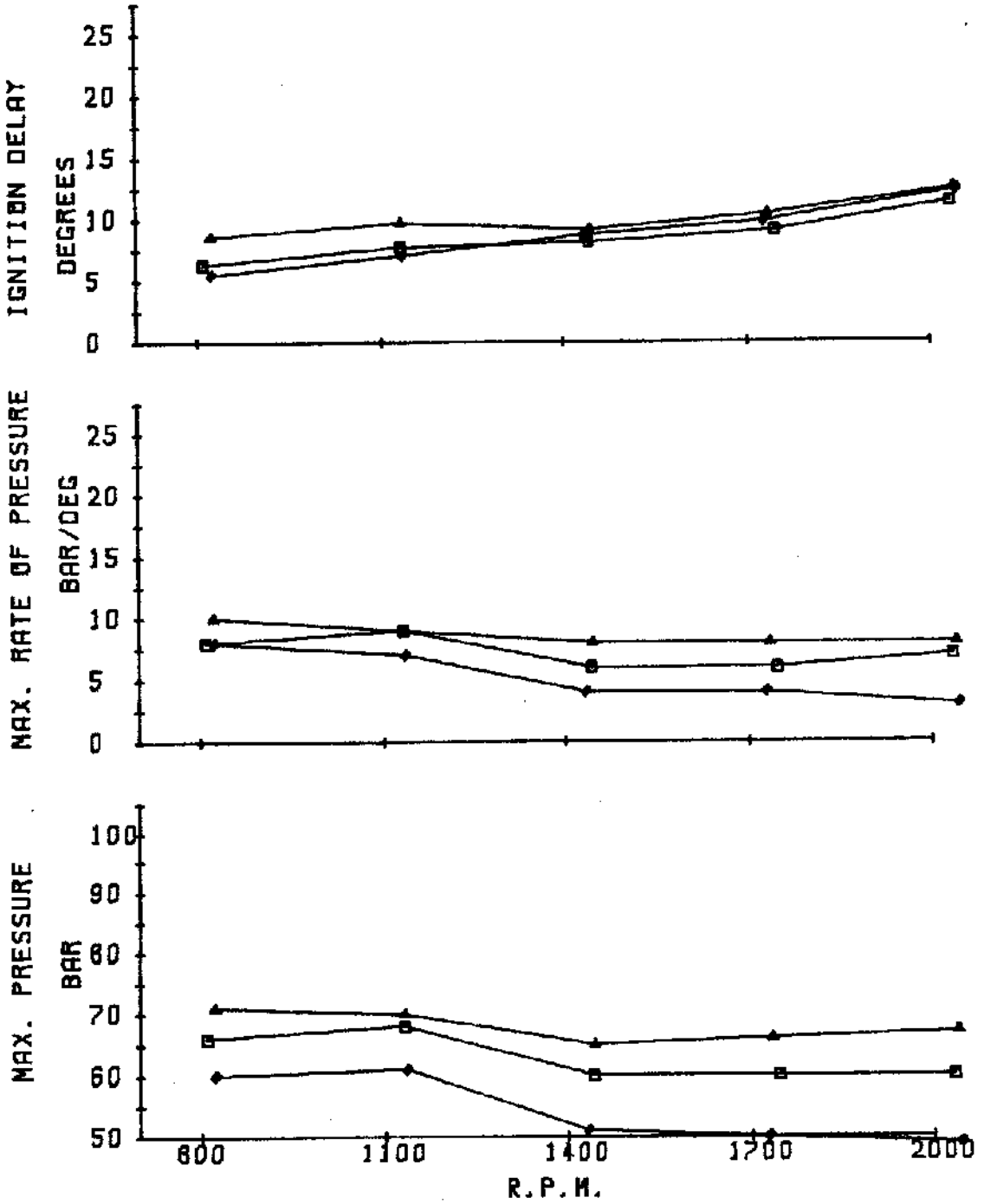
ENGINE : FORD 3000 CAPACITY: 2660	◆ 14 deg BTDC ■ 20 deg BTDC ▲ 26 deg BTDC 100 DIST 1/3 LOAD
EFFECT OF STATIC TIMING ON IGNITION DELAY, MAX. PRESSURE & PRESSURE RATE	FIG AP82



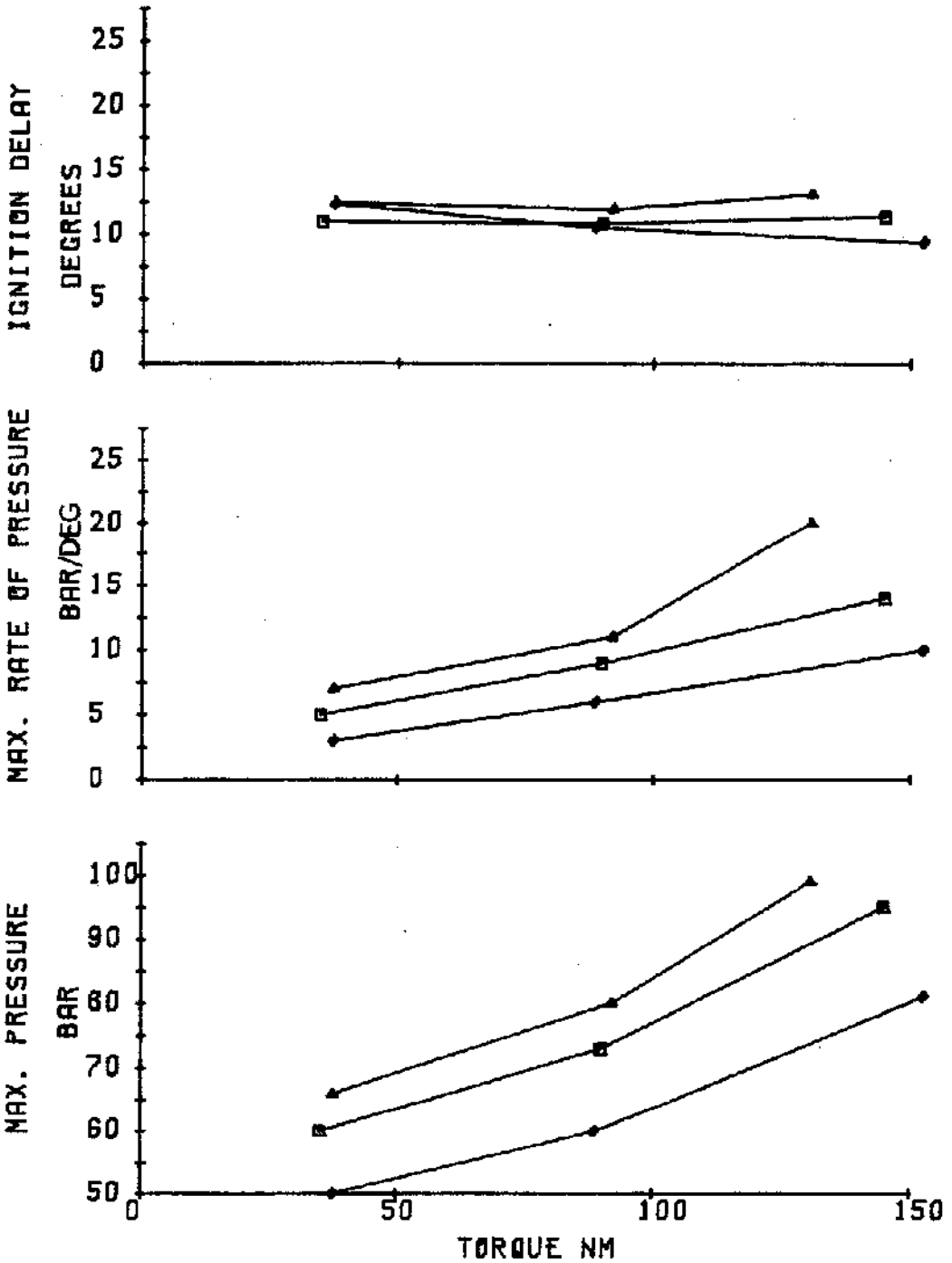
ENGINE : FORD 3000 CAPACITY: 2660	◆ 14 deg BTDC ■ 20 deg BTDC ▲ 26 deg BTDC TEGDN3.9 FULL LOAD
EFFECT OF STATIC TIMING ON IGNITION DELAY, MAX. PRESSURE & PRESSURE RATE	FIG AP63



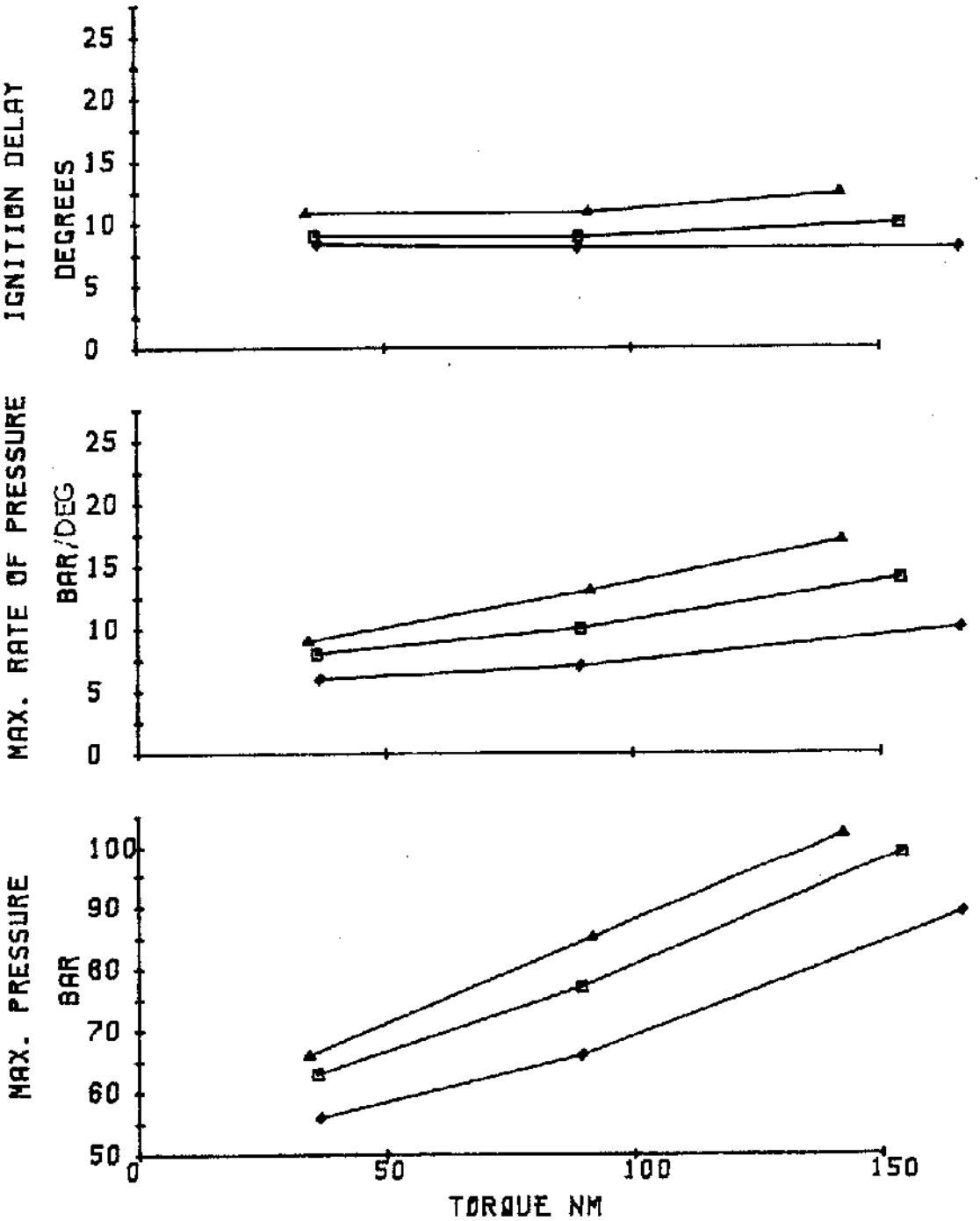
ENGINE : FORD 3000 CAPACITY: 2860	♦ 14 deg BTDC ■ 20 deg BTDC ▲ 26 deg BTDC TEGDN3.9 2/3 LOAD
EFFECT OF STATIC TIMING ON IGNITION DELAY, MAX. PRESSURE & PRESSURE RATE	FIG AP84



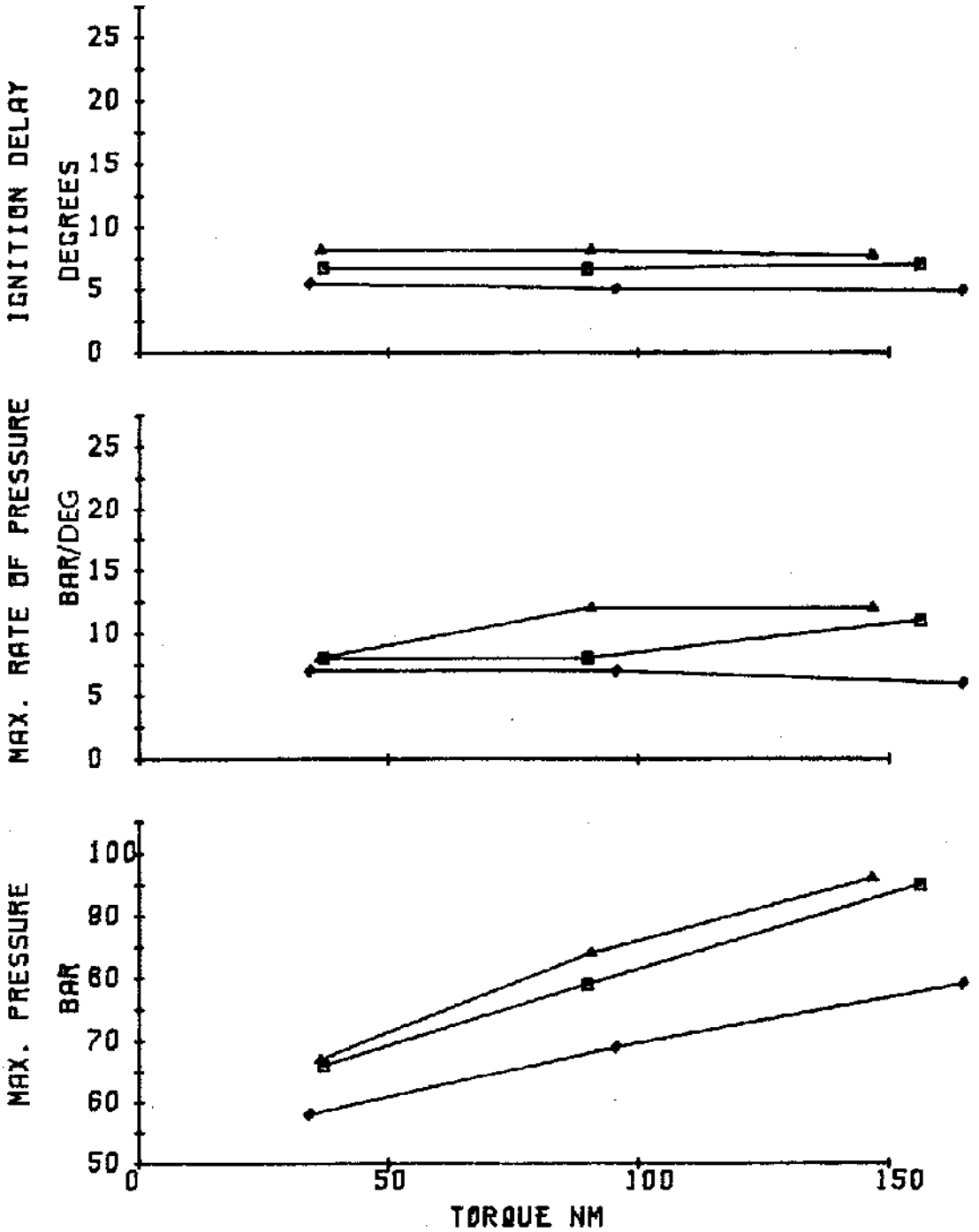
ENGINE : FORD 3000 CAPACITY: 2860	◆ 14 deg BTDC ■ 20 deg BTDC ▲ 26 deg BTDC TEGDN3.9 1/3 LOAD
EFFECT OF STATIC TIMING ON IGNITION DELAY, MAX. PRESSURE & PRESSURE RATE	FIG AP65



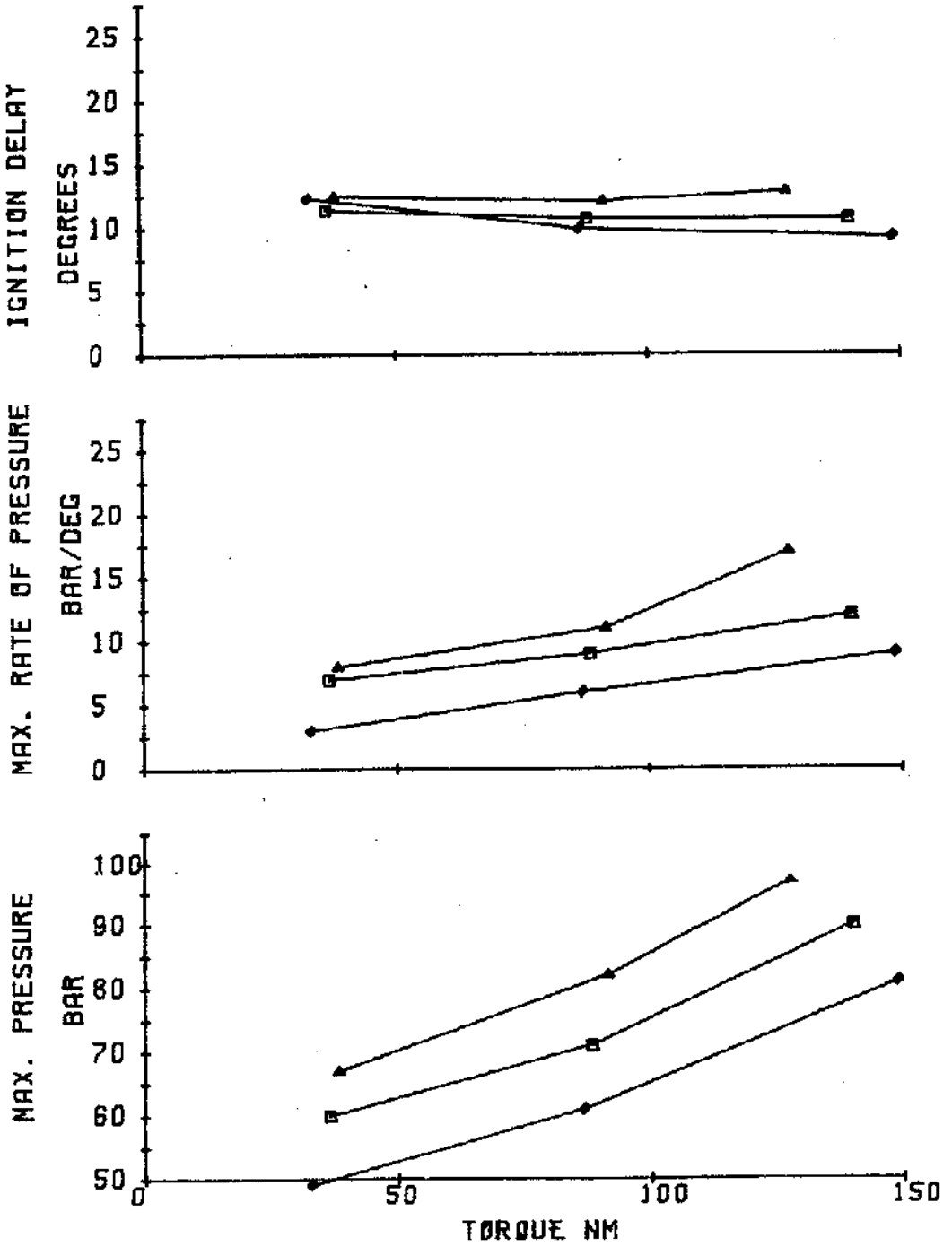
ENGINE : FORD 3000 CAPACITY: 2660	◆ 14 deg BTDC ■ 20 deg BTDC ▲ 26 deg BTDC DIST 100 2000 R.P.M.
EFFECT OF STATIC TIMING ON IGNITION DELAY, MAX. PRESSURE & PRESSURE RATE	FIG AP86



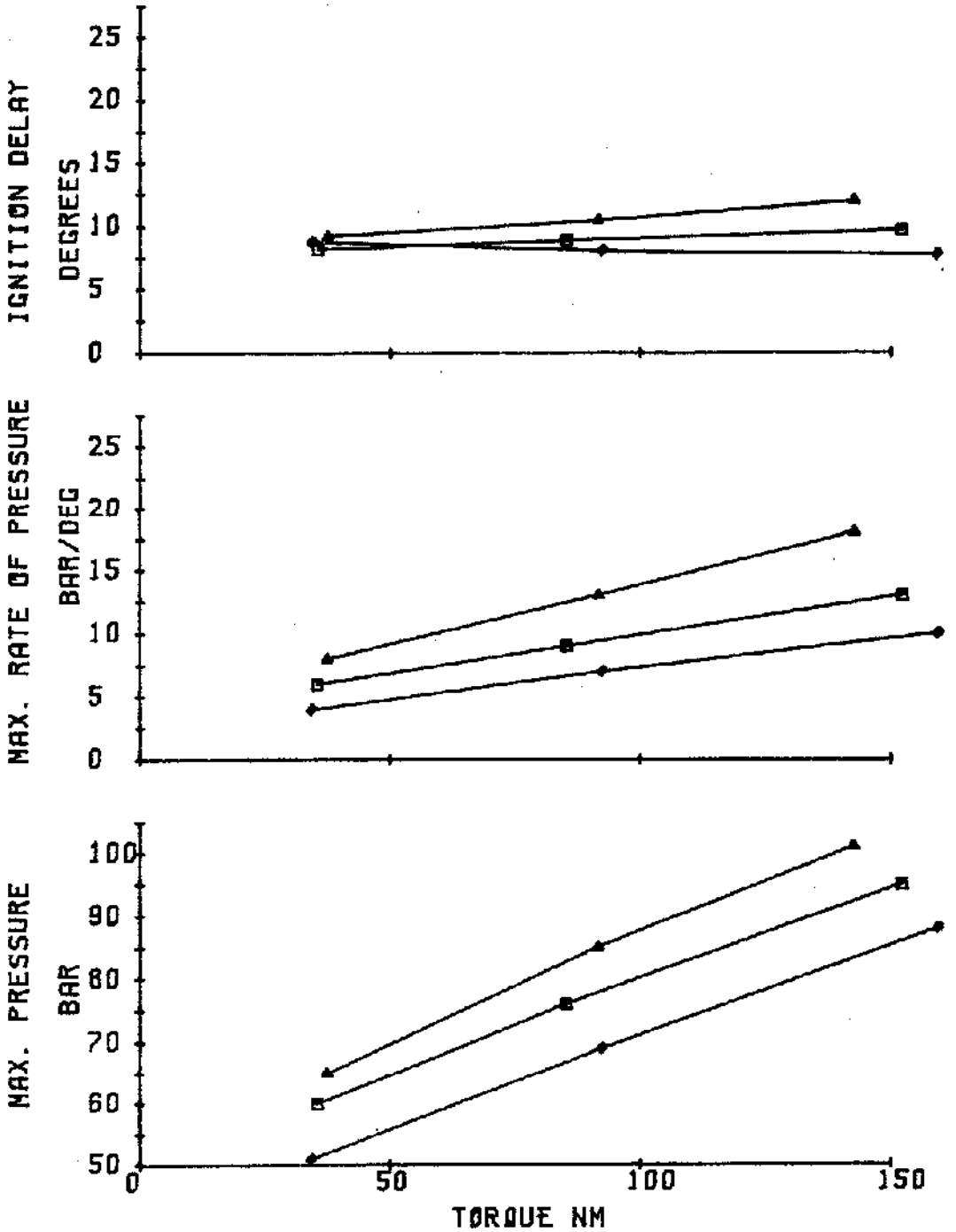
ENGINE : FORD 3000 CAPACITY: 2660	• 14 deg BTDC ▪ 20 deg BTDC ▲ 26 deg BTDC DIST 100 1400 R.P.M.
EFFECT OF STATIC TIMING ON IGNITION DELAY, MAX. PRESSURE & PRESSURE RATE	FIG AP67



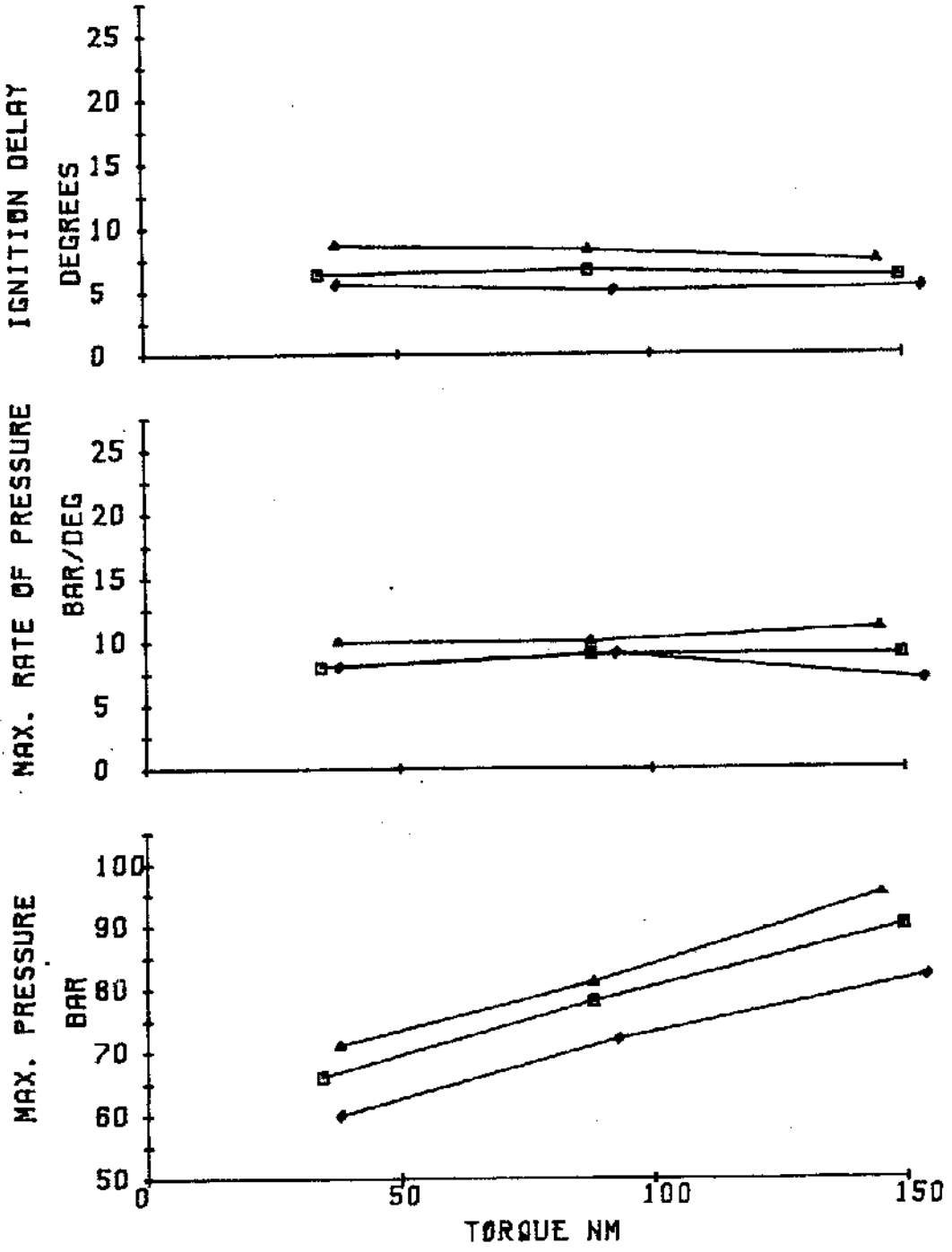
ENGINE : FORD 3000 CAPACITY: 2860	◆ 14 deg BTDC ■ 20 deg BTDC ▲ 26 deg BTDC DIST 100 800 R.P.M.
EFFECT OF STATIC TIMING ON IGNITION DELAY, MAX. PRESSURE & PRESSURE RATE	FIG AP88



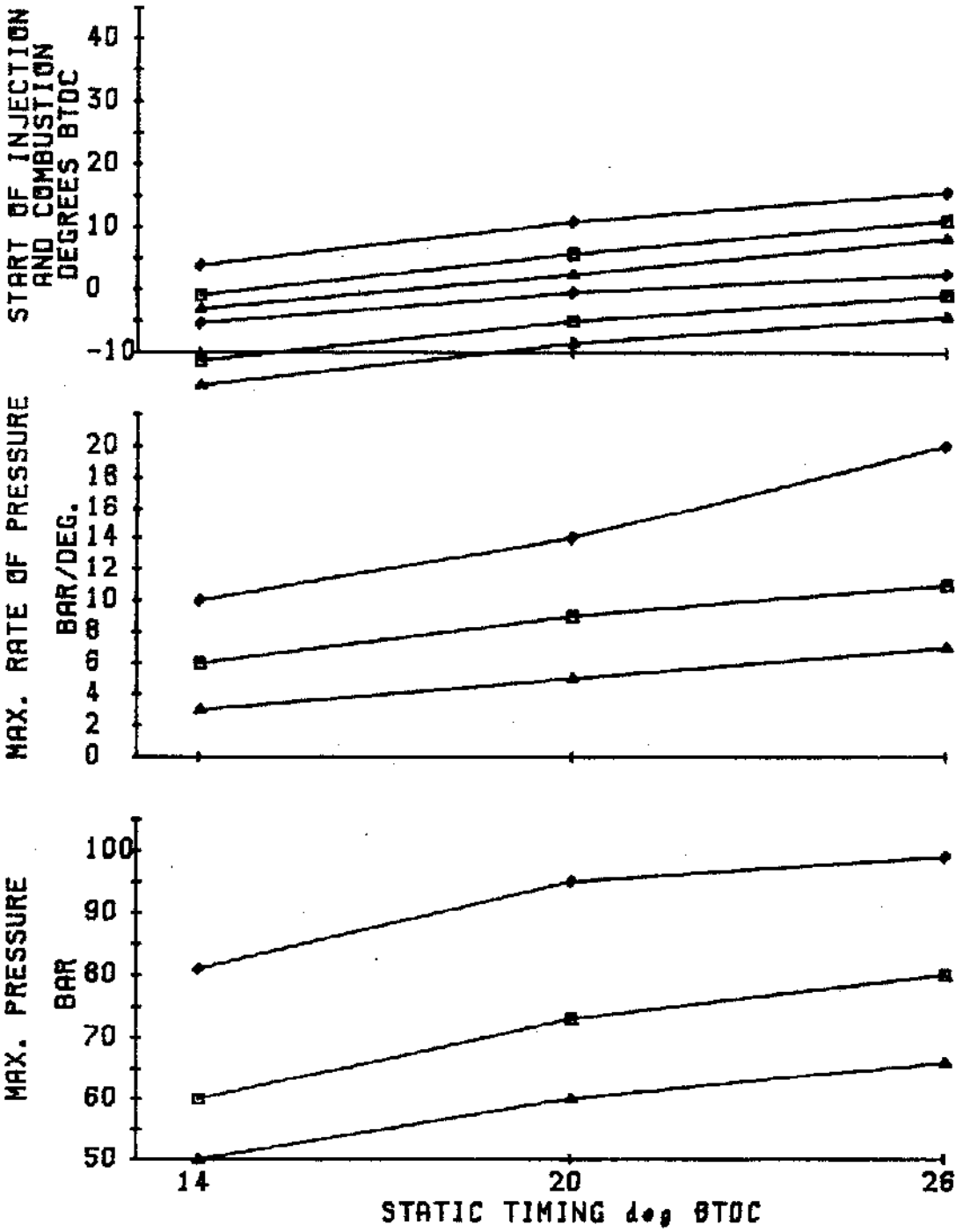
ENGINE : FORD 3000 CAPACITY: 2860	◆ 14 deg BTDC ◻ 20 deg BTDC ▲ 26 deg BTDC TEGDN3.9 2000 R.P.M.
EFFECT OF STATIC TIMING ON IGNITION DELAY, MAX. PRESSURE & PRESSURE RATE	FIG AP89



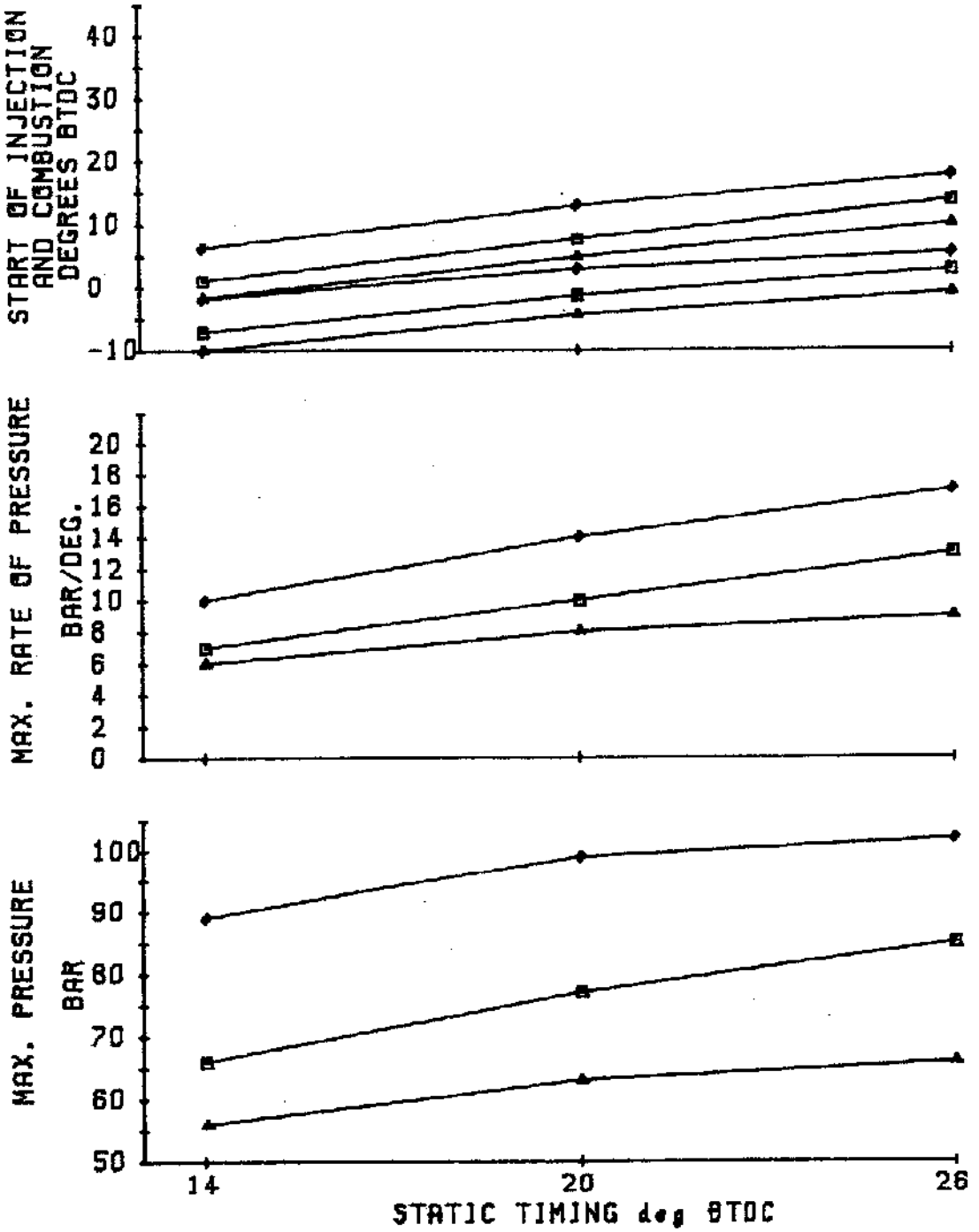
ENGINE : FORD 3000 CAPACITY: 2860	• 14 deg BTDC ▪ 20 deg BTDC ▲ 26 deg BTDC TEGON3.9 1400 R.P.M.
EFFECT OF STATIC TIMING ON IGNITION DELAY, MAX. PRESSURE & PRESSURE RATE	FIG AP90



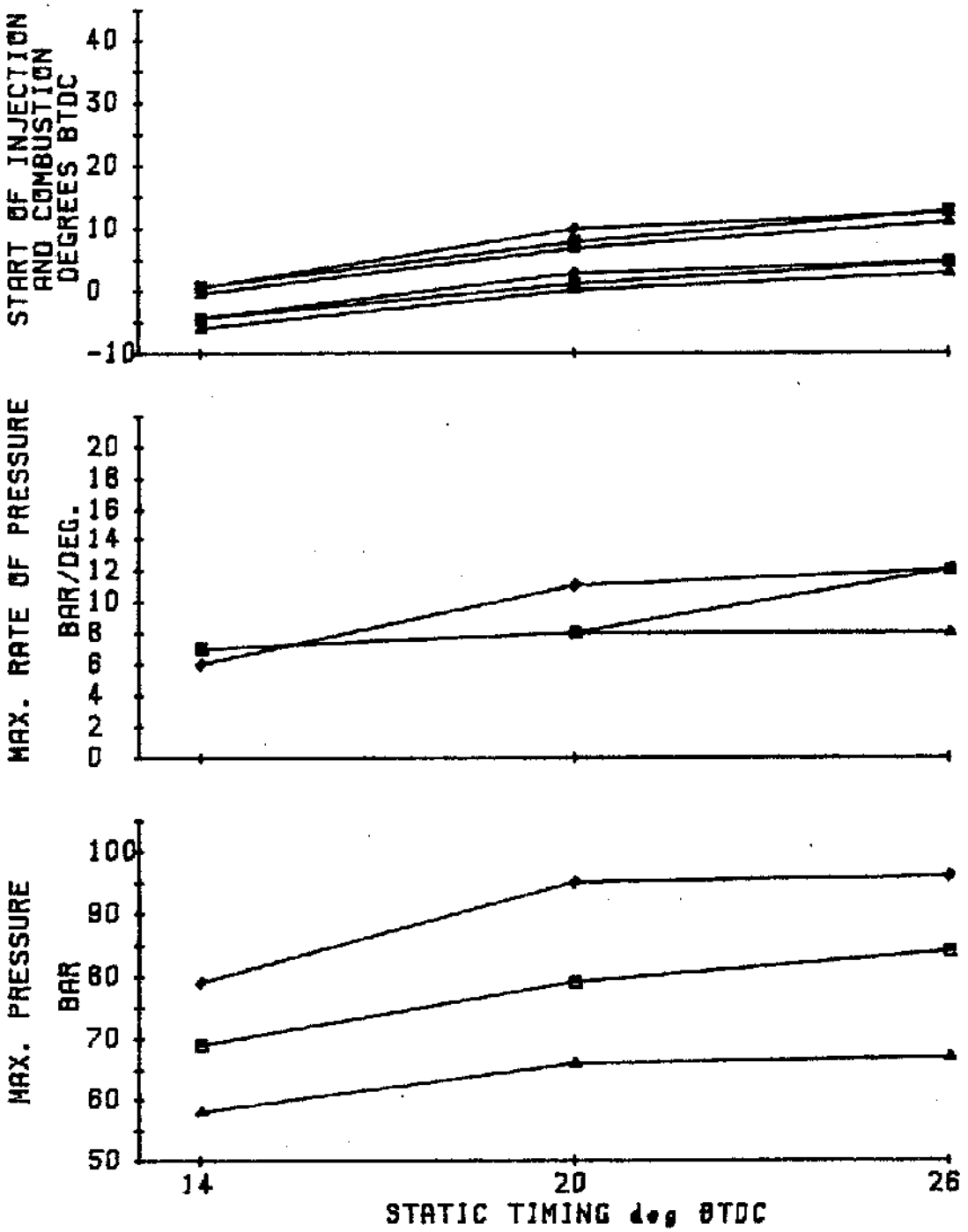
ENGINE : FORD 3000 CAPACITY: 2860	◆ 14 deg BTDC ■ 20 deg BTDC ▲ 26 deg BTDC TEGDN3.9 800 R.P.M.
EFFECT OF STATIC TIMING ON IGNITION DELAY, MAX. PRESSURE & PRESSURE RATE	FIG AP91



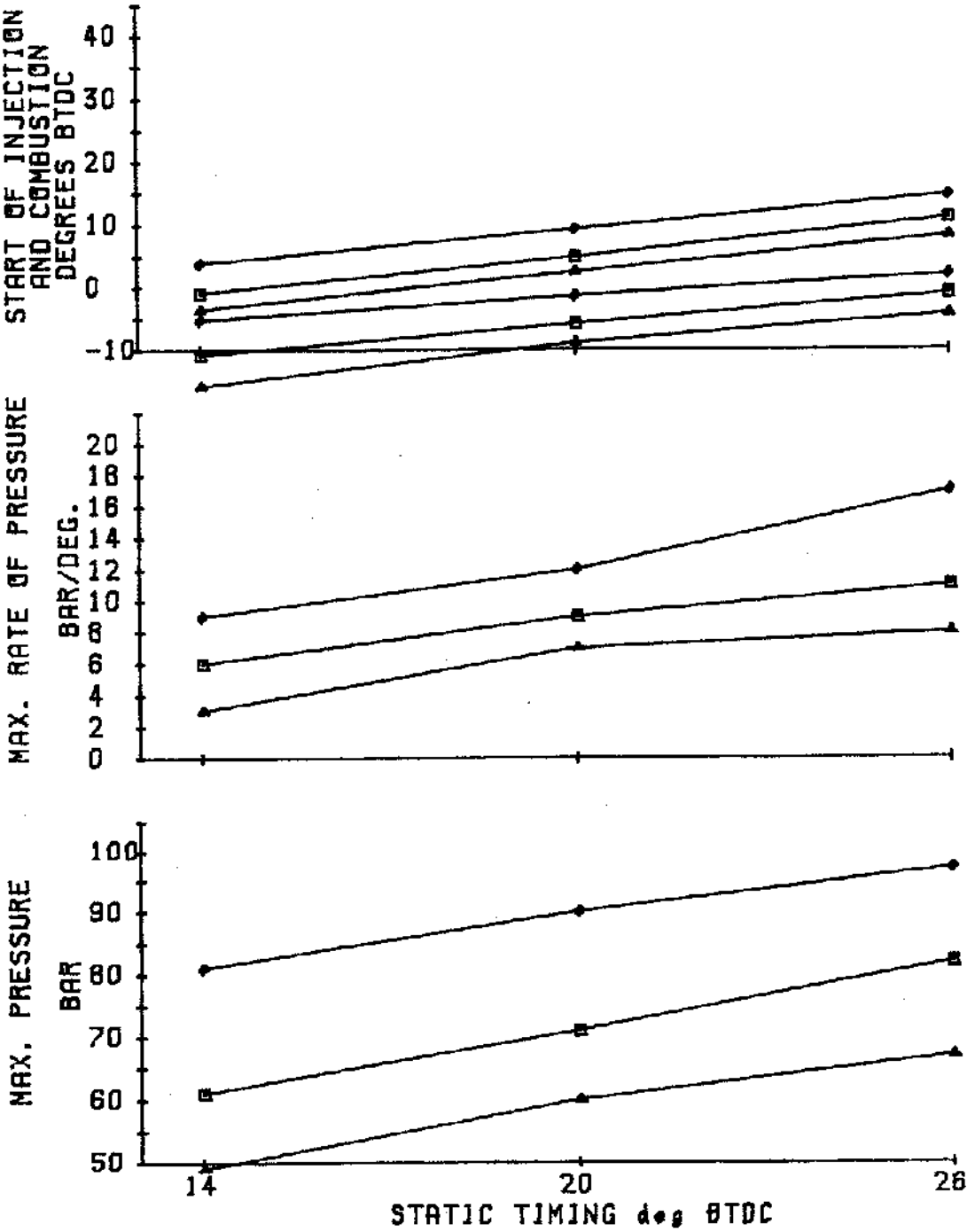
ENGINE : FORD 3000 CAPACITY: 2860	♦ FULL LOAD ■ 2/3 LOAD ▲ 1/3 LOAD DIST 100 2000 R.P.M.
EFFECT OF STATIC TIMING ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	FIG AP92



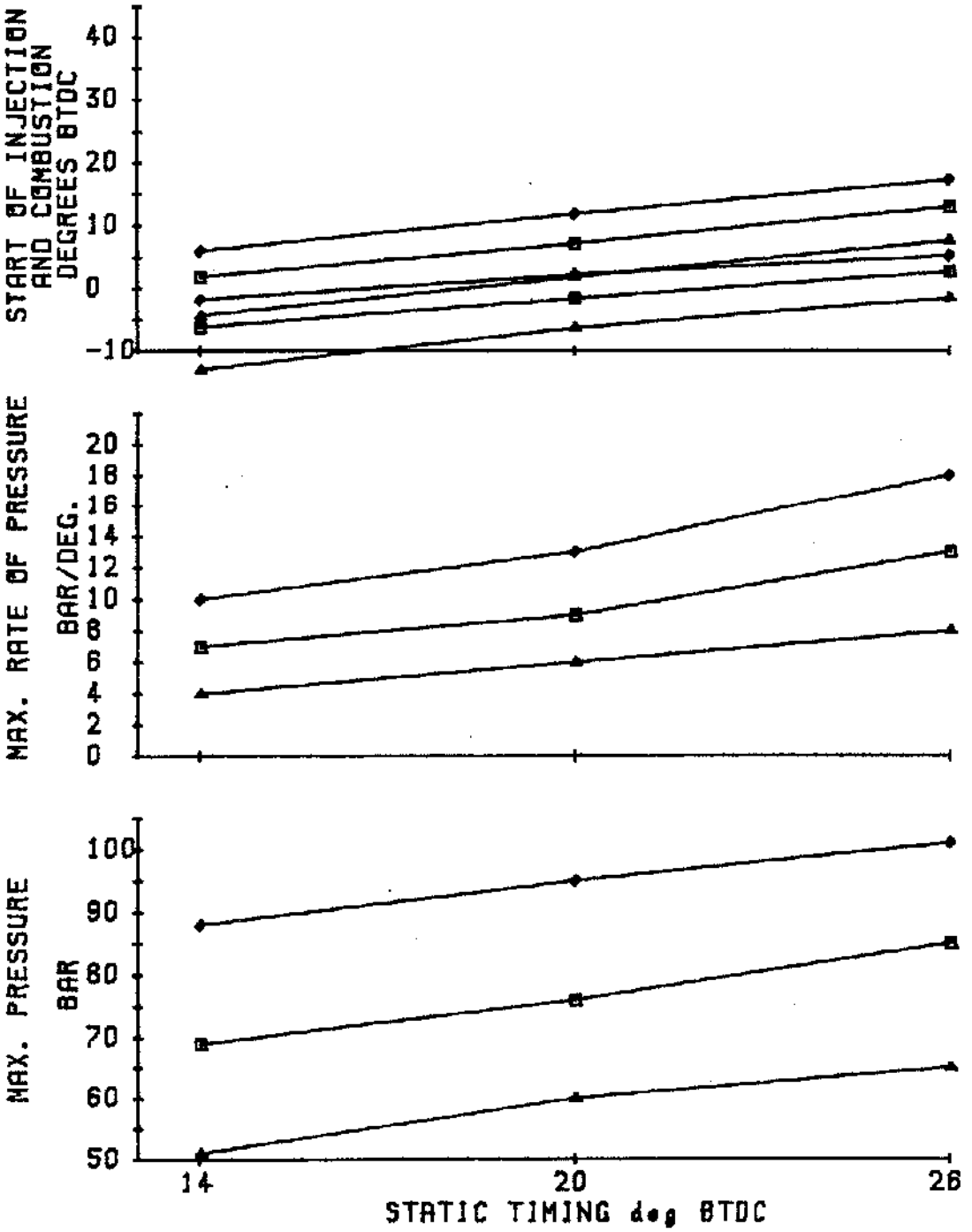
ENGINE : FORD 3000 CAPACITY: 2660	◆ FULL LOAD ■ 2/3 LOAD ▲ 1/3 LOAD DIST 100 1400 R.P.M.
EFFECT OF STATIC TIMING ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	FIG AP93



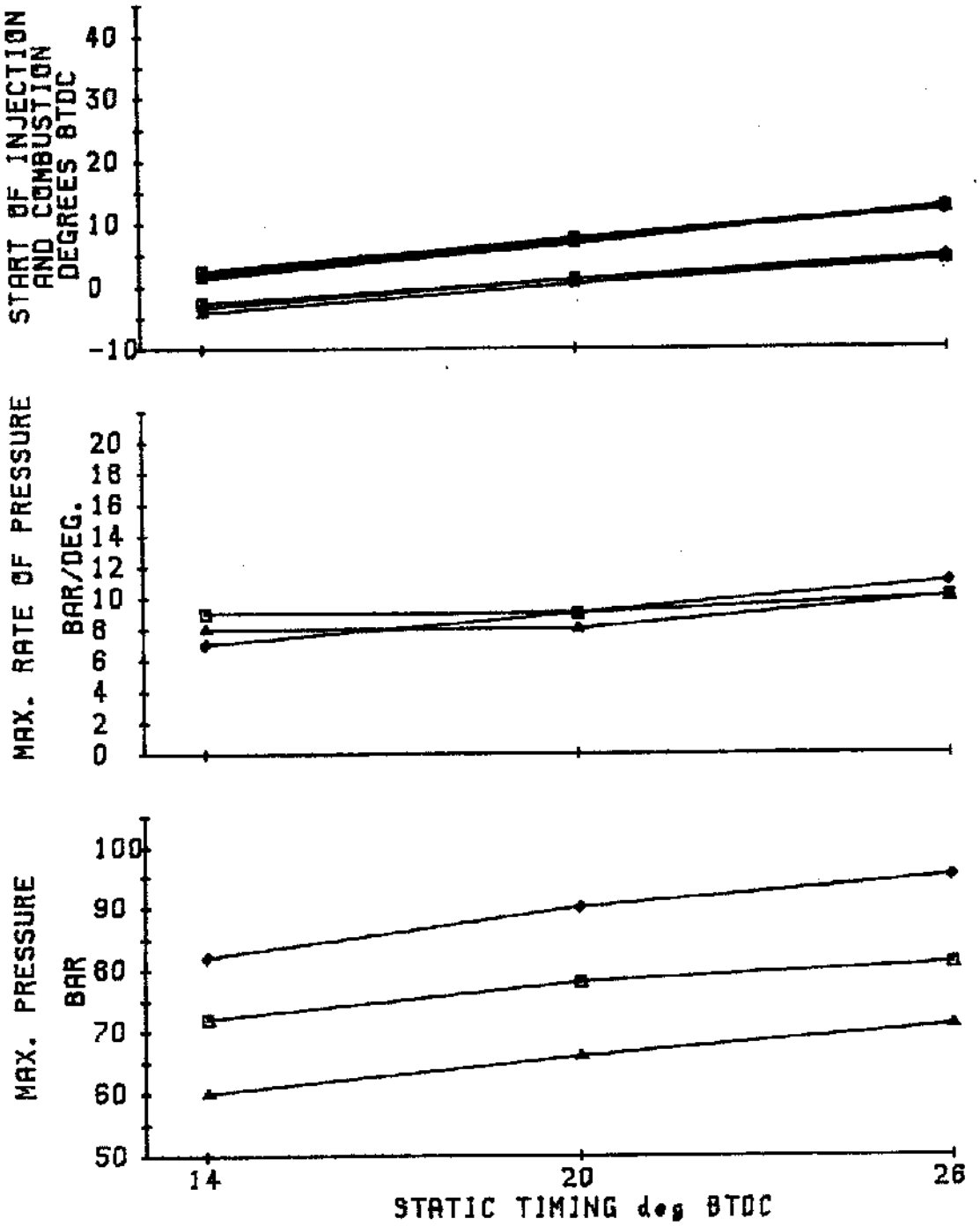
ENGINE : FORD 3000 CAPACITY: 2860	• FULL LOAD ▪ 2/3 LOAD ▲ 1/3 LOAD DIST 100 800 R.P.M.
EFFECT OF STATIC TIMING ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	FIG AP94



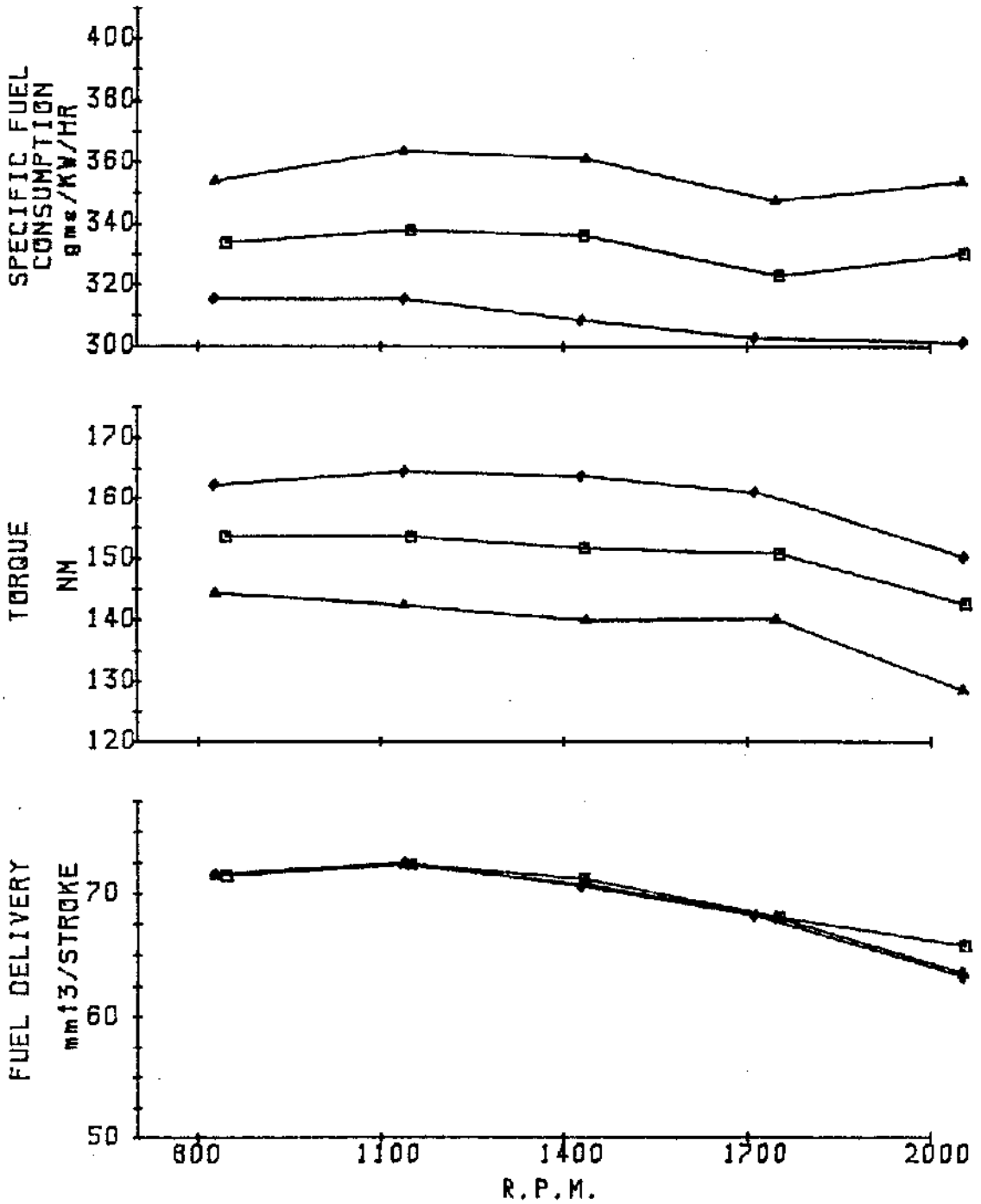
ENGINE : FORD 3000 CAPACITY: 2860	• FULL LOAD ▪ 2/3 LOAD ▲ 1/3 LOAD TEGON3.9 2000 R.P.M.
EFFECT OF STATIC TIMING ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	FIG AP95



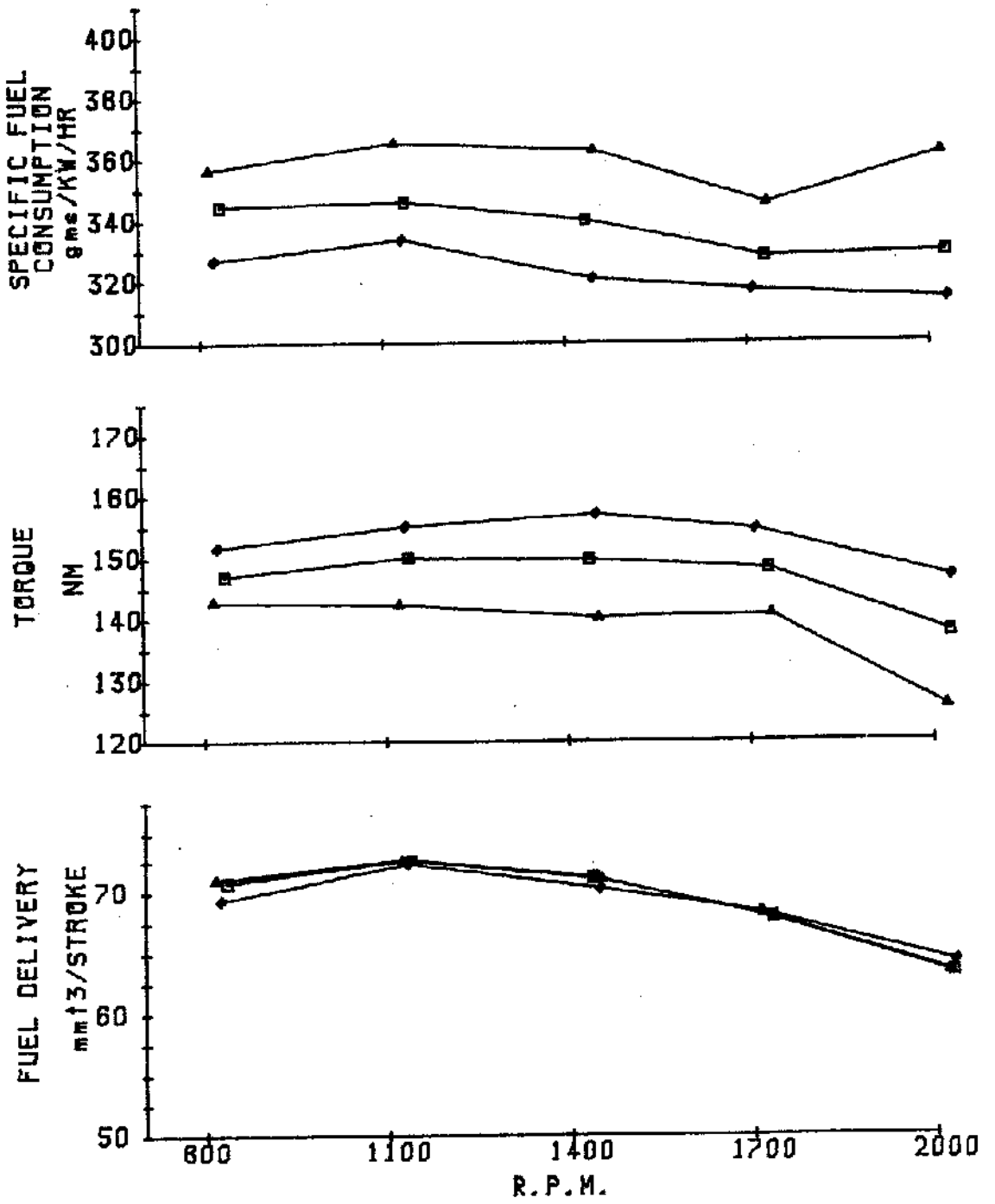
ENGINE : FORD 3000 CAPACITY: 2860	♦ FULL LOAD ■ 2/3 LOAD ▲ 1/3 LOAD TEGDN3.9 1400 R.P.M.
EFFECT OF STATIC TIMING ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	FIG AP96



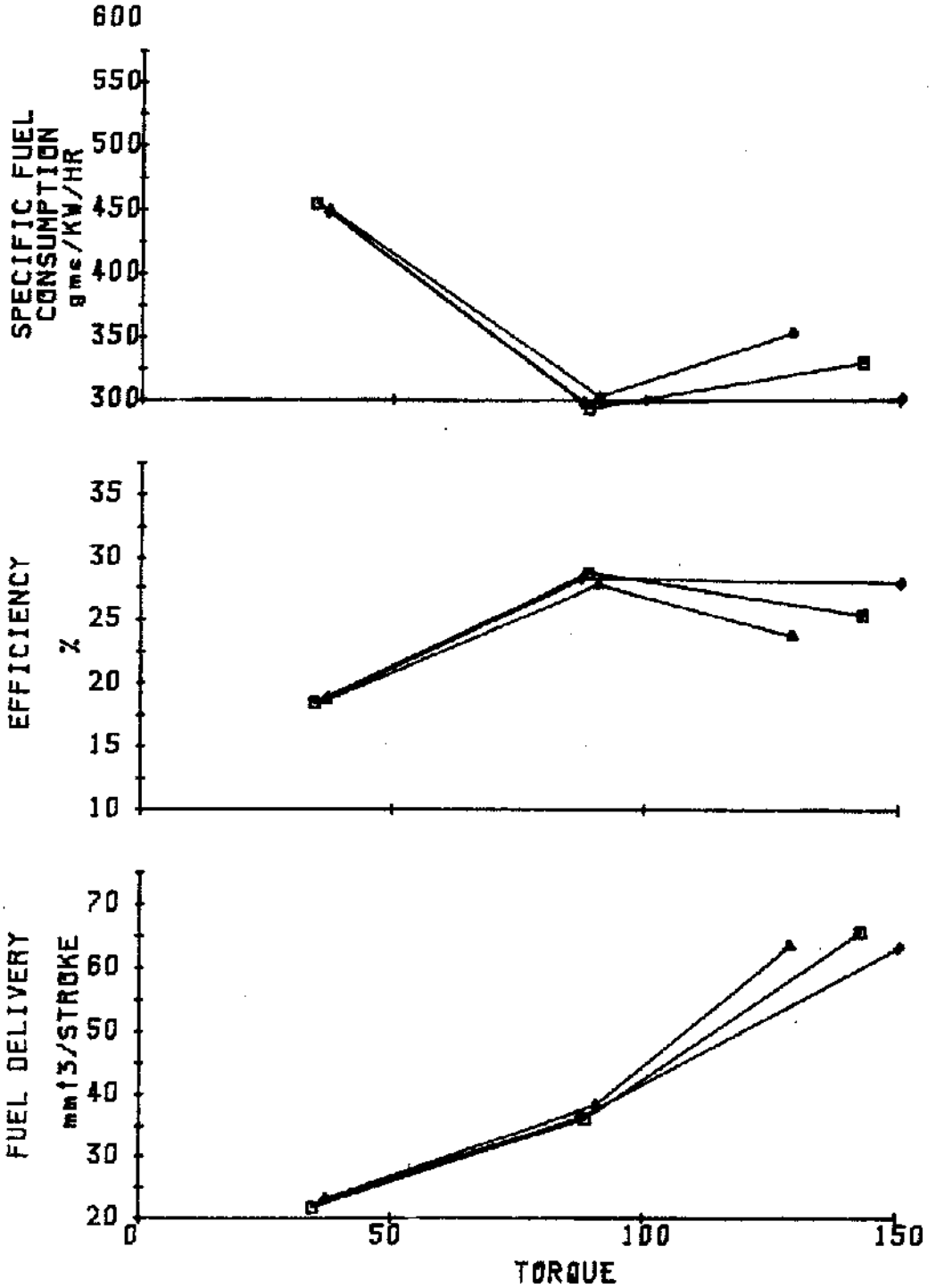
ENGINE : FORD 3000 CAPACITY: 2860	• FULL LOAD ■ 2/3 LOAD ▲ 1/3 LOAD TEGDN3.9 800 R.P.M.
EFFECT OF STATIC TIMING ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	FIG AP97



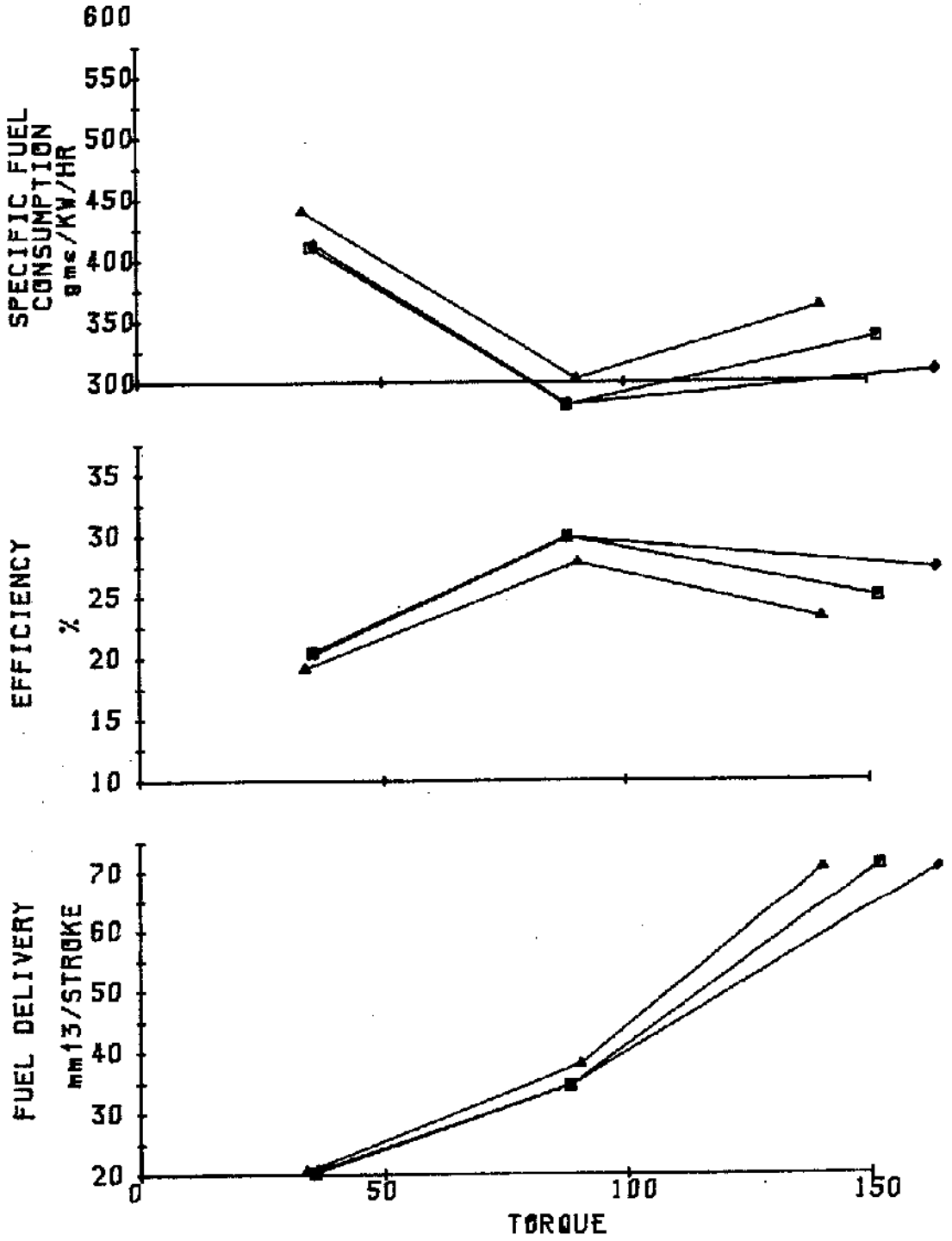
ENGINE : FORD 3000 CAPACITY: 2660	• 14 deg BTDC ▫ 20 deg BTDC ▲ 26 deg BTDC DIST 100 FULL LOAD
EFFECT OF STATIC TIMING ON INJECTION PUMP DELIVERY, TORQUE & S.F.C.	FIG AP98



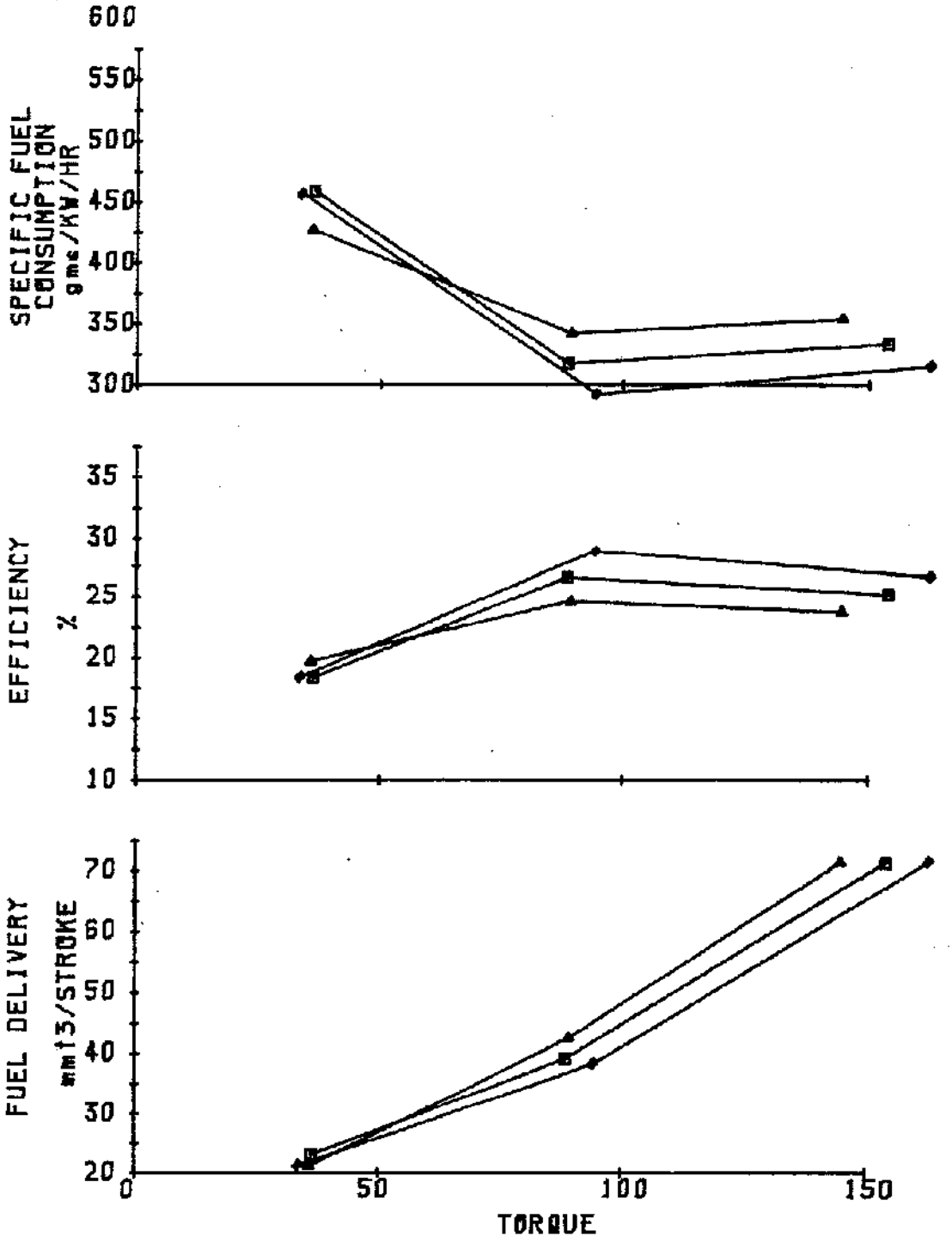
ENGINE : FORD 3000 CAPACITY: 2860	♦ 14 deg BTDC ■ 20 deg BTDC ▲ 26 deg BTDC TEGDN3.9 FULL LOAD
EFFECT OF STATIC TIMING ON INJECTION PUMP DELIVERY, TORQUE & S.F.C.	FIG AP99



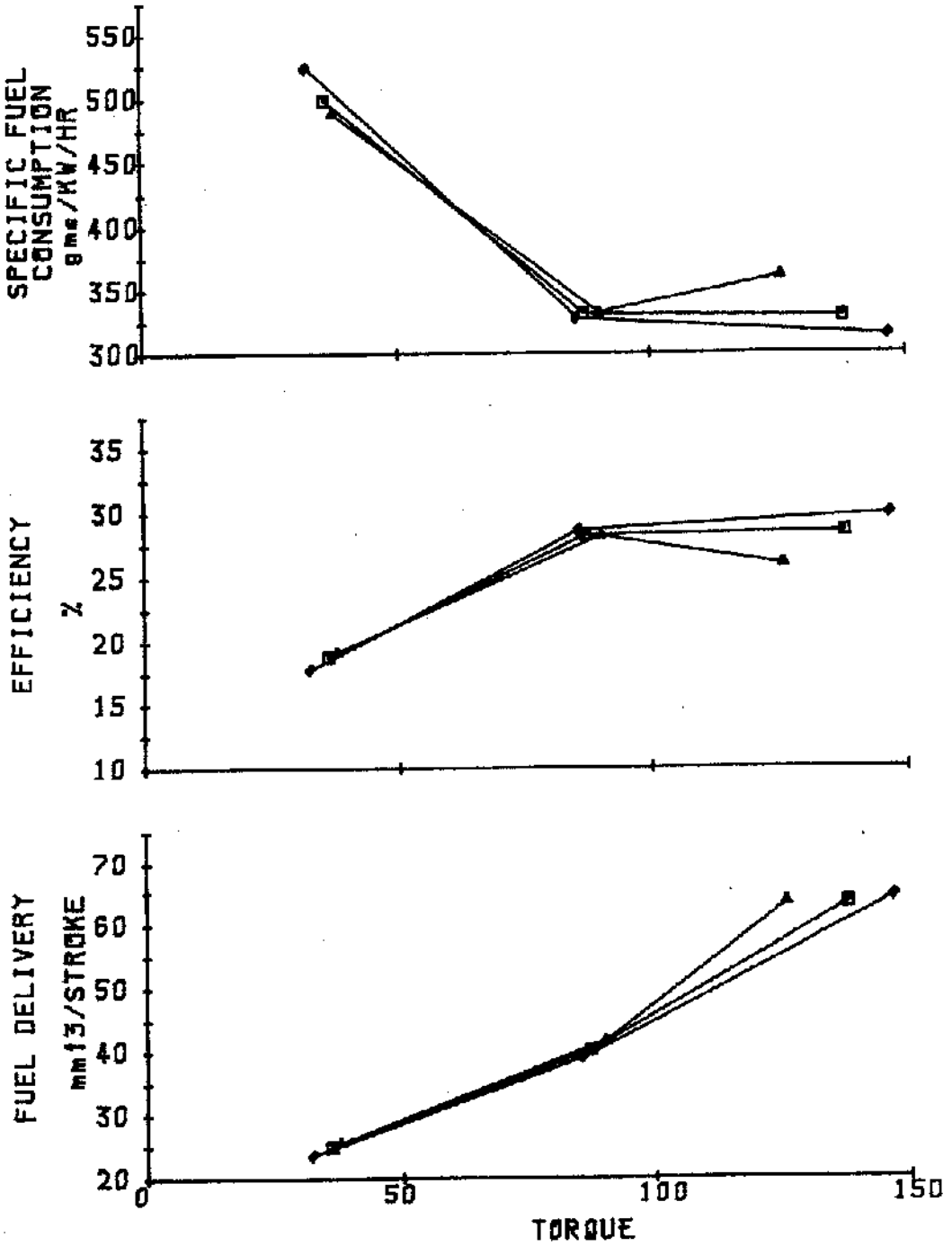
ENGINE : FORD 3000 CAPACITY: 2860	• 14 deg BTDC ▫ 20 deg BTDC ▲ 26 deg BTDC DIST 100 2000 R.P.M.
EFFECT OF STATIC TIMING ON INJECTION PUMP DELIVERY, EFFICIENCY & S.F.C.	FIG AP100



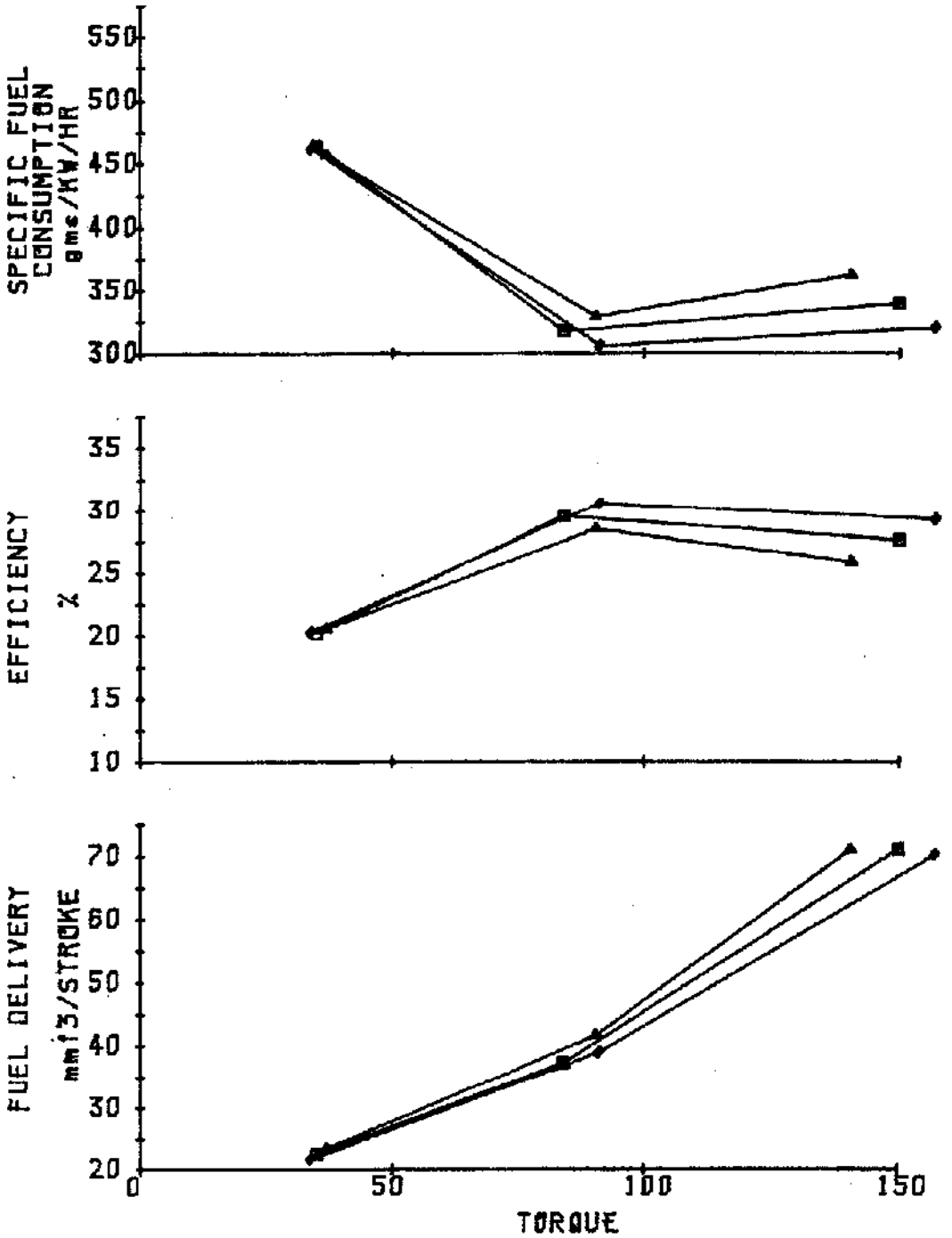
ENGINE : FORD 3000 CAPACITY: 2660	♦ 14 deg BTDC ▫ 20 deg BTDC ▲ 26 deg BTDC DIST 100 1400 R.P.M.
EFFECT OF STATIC TIMING ON INJECTION PUMP DELIVERY, EFFICIENCY & S.F.C.	FIG AP101



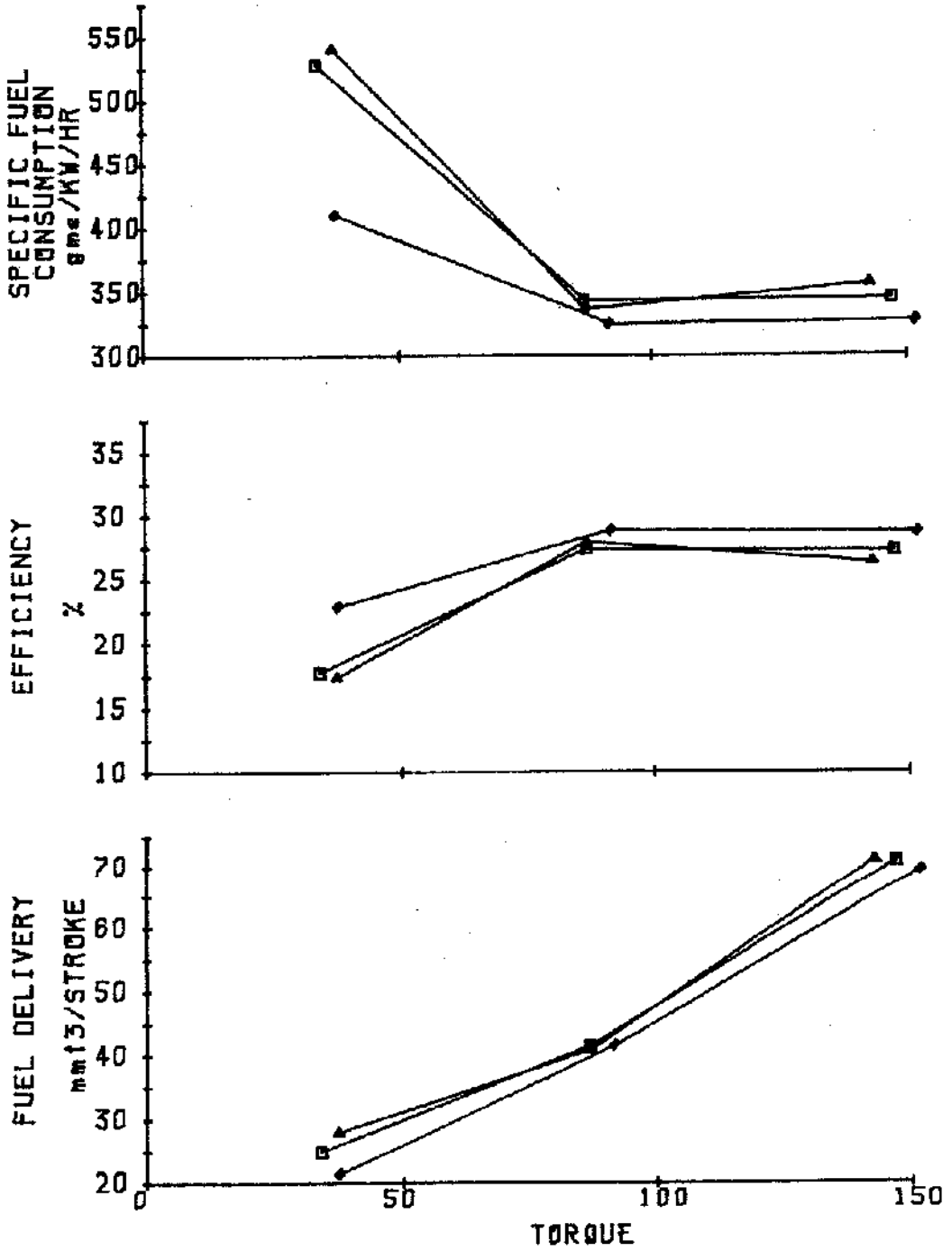
ENGINE : FORD 3000 CAPACITY: 2660	♦ 14 deg BTDC ▫ 20 deg BTDC ▲ 26 deg BTDC DIST 100 600 R.P.M.
EFFECT OF STATIC TIMING ON INJECTION PUMP DELIVERY, EFFICIENCY & S.F.C.	FIG AP102



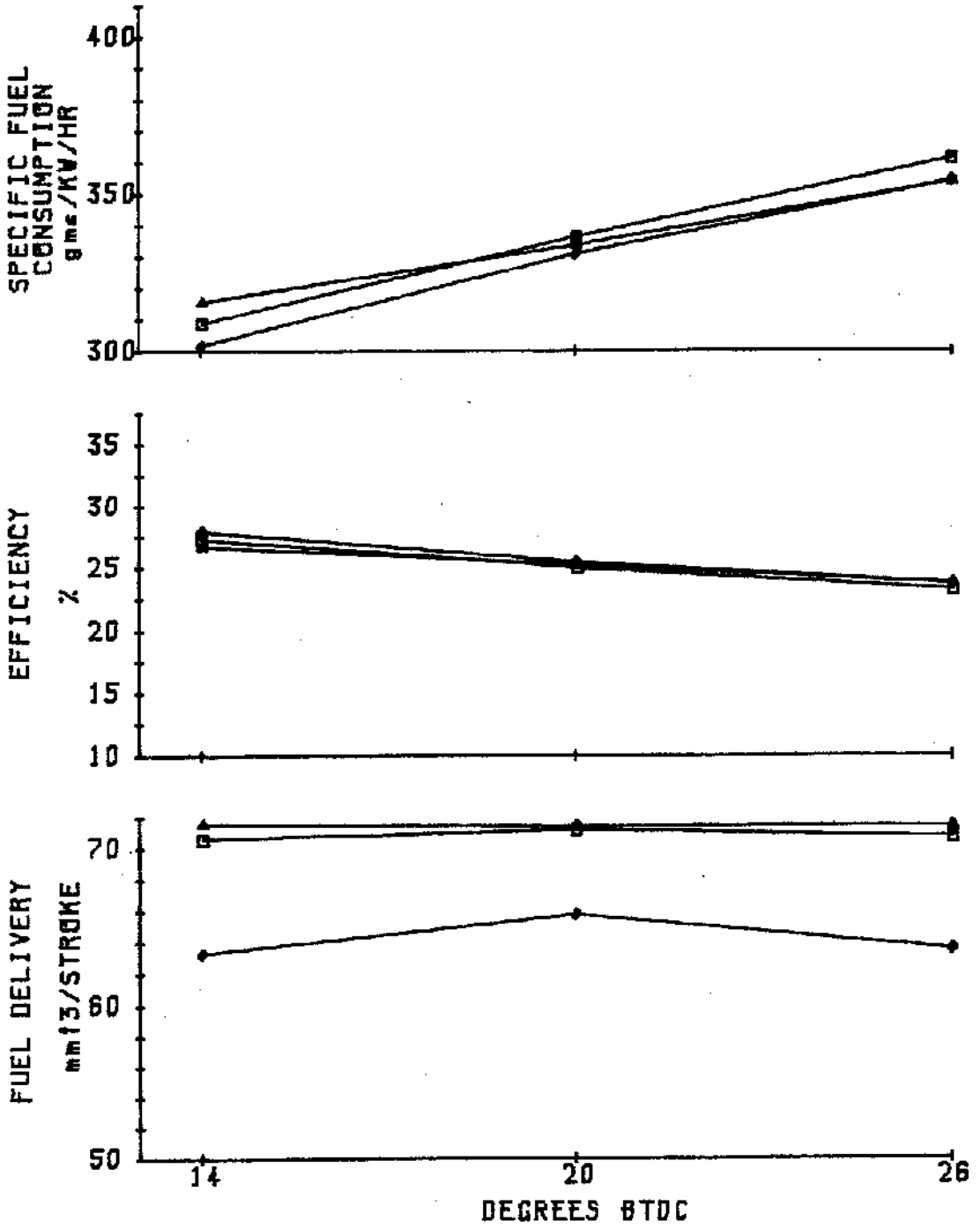
ENGINE : FORD 3000 CAPACITY: 2660	♦ 14 deg BTDC ■ 20 deg BTDC ▲ 26 deg BTDC TEGDN3.9 2000 R.P.M.
EFFECT OF STATIC TIMING ON INJECTION PUMP DELIVERY, EFFICIENCY & S.F.C.	FIG AP103



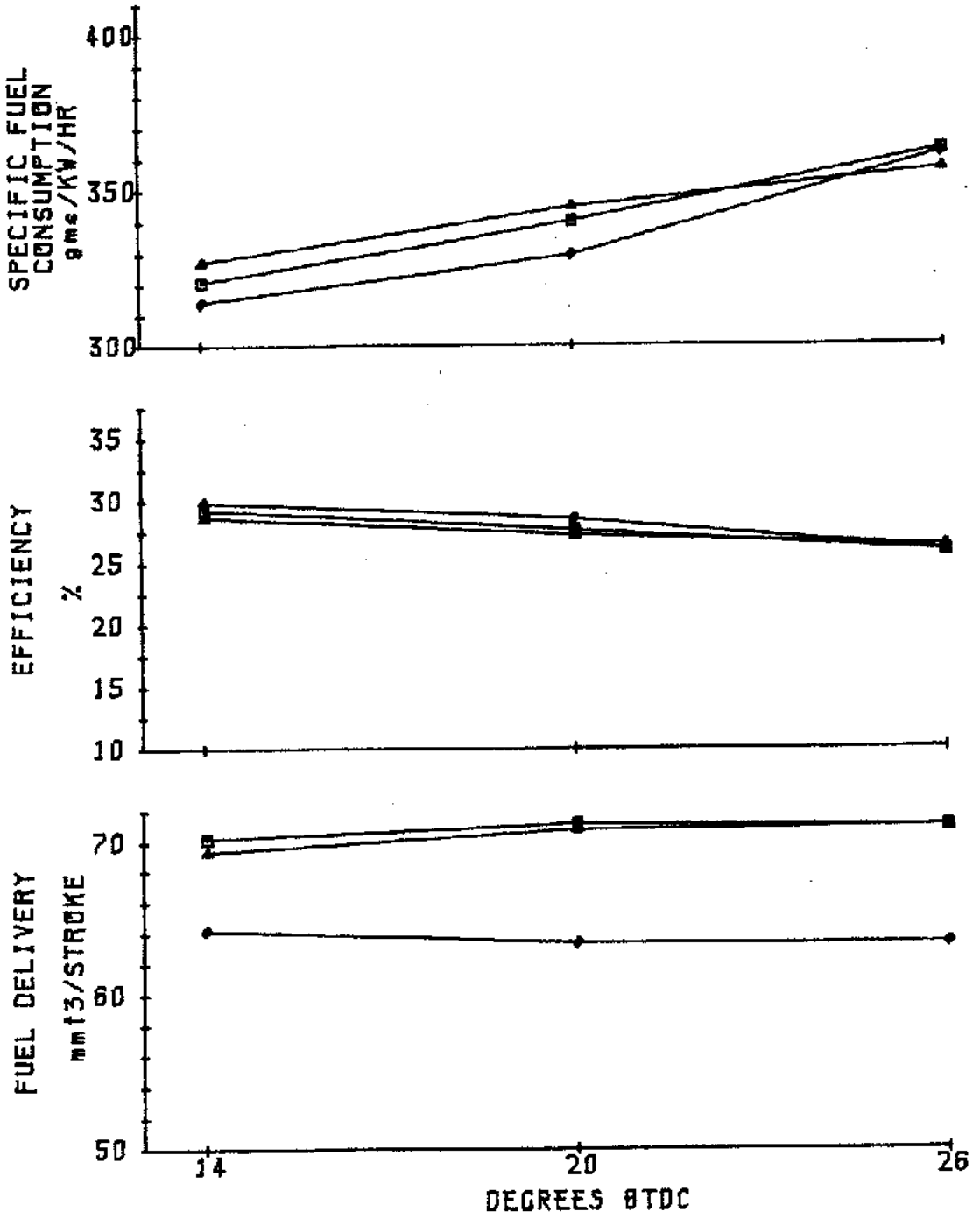
ENGINE : FORD 3000 CAPACITY: 2660	• 14 deg BTDC ▫ 20 deg BTDC ▲ 26 deg BTDC TEGON3.9 1400 R.P.M.
EFFECT OF STATIC TIMING ON INJECTION PUMP DELIVERY, EFFICIENCY & S.F.C.	FIG AP104



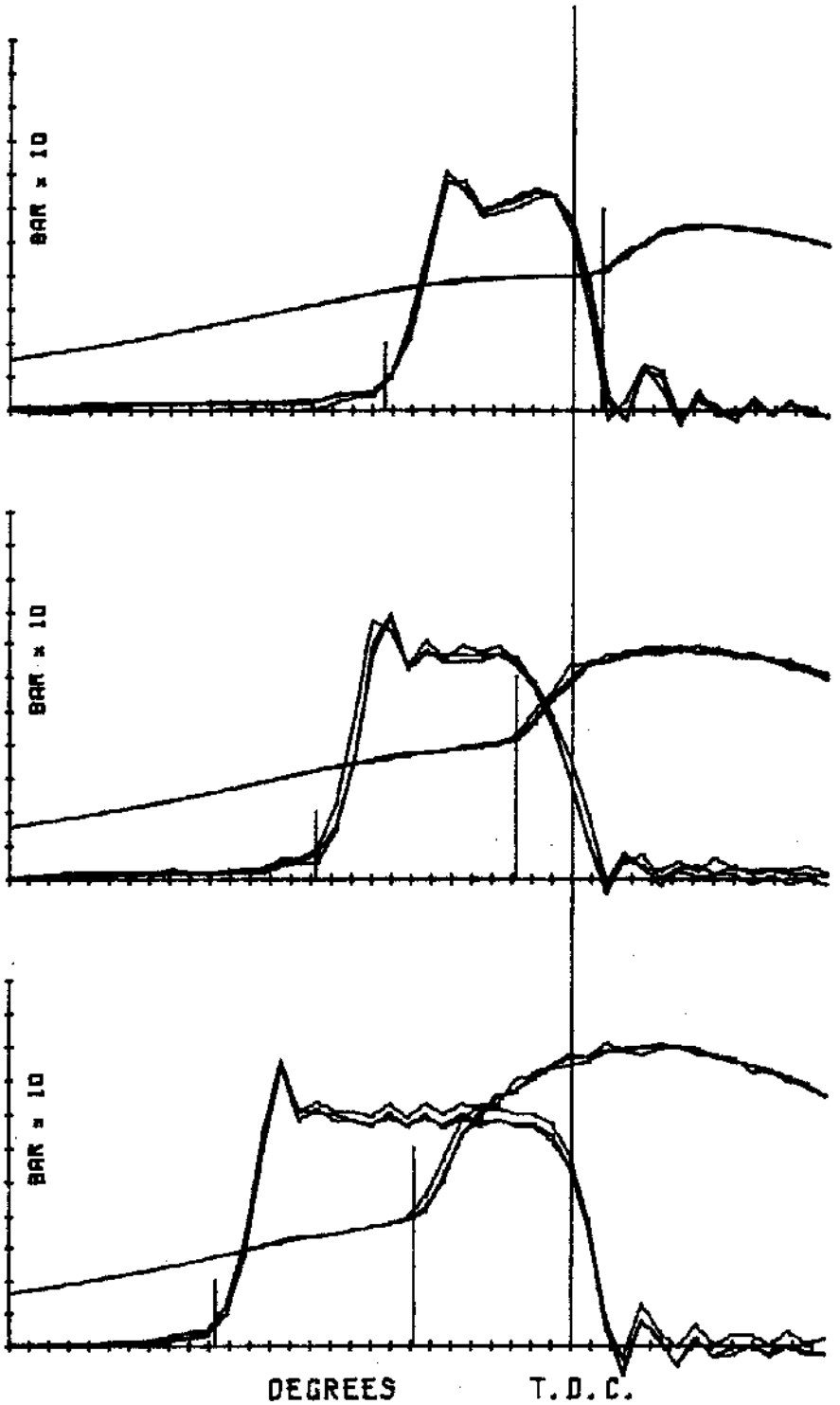
ENGINE : FORD 3000 CAPACITY: 2660	◆ 14 deg BTDC ■ 20 deg BTDC ▲ 26 deg BTDC TEGDN3.9 600 R.P.M.
EFFECT OF STATIC TIMING ON INJECTION PUMP DELIVERY, EFFICIENCY & S.F.C.	FIG AP105



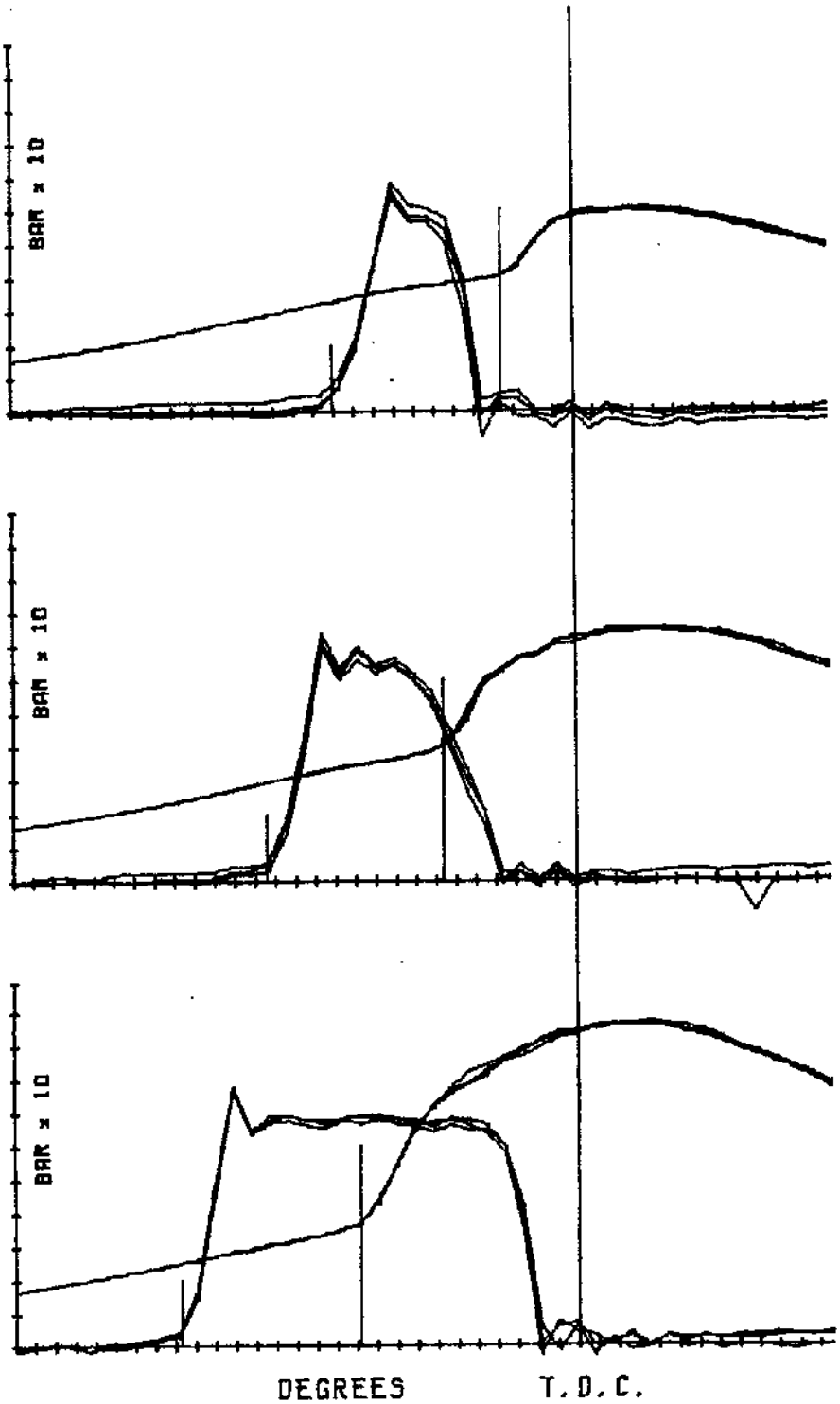
ENGINE : FORD 3000 CAPACITY: 2860	• 2000 R.P.M. ■ 1400 R.P.M. ▲ 800 R.P.M. DIST 100 FULL LOAD
EFFECT OF STATIC TIMING ON INJECTION PUMP DELIVERY, EFFICIENCY & S.F.C.	FIG AP106



ENGINE : FORD 3000 CAPACITY: 2860	◆ 2000 R.P.M. ■ 1400 R.P.M. ▲ 800 R.P.M. TEGDN3.9 FULL LOAD
EFFECT OF STATIC TIMING ON INJECTION PUMP DELIVERY, EFFICIENCY & S.F.C.	FIG AP107



ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : DIST 100 C.V. : 42.75 DENSITY : .849
TEST ID. : UNID016	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP108

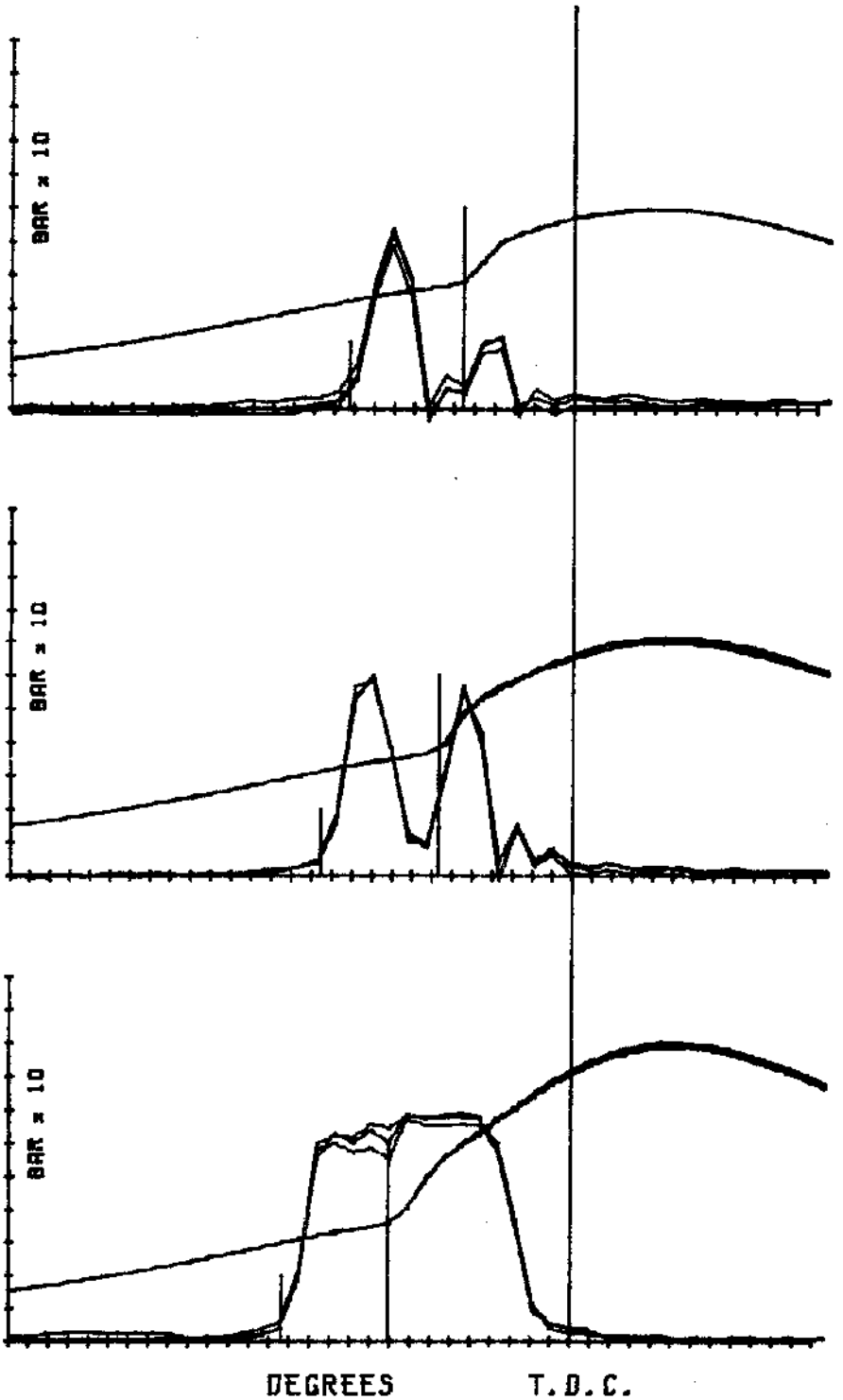


AVERAGE
TORQUE : 36
R.P.M. : 1426
START OF
INJN. : 12.1
COMBN. : 3.6
DELAY
DEGREES : 6.5
mS : .99
MAXIMUM
PRESSURE: 60.5
RATE : 7.1
TEMPERATURES
AIR INLET: 26
EXHAUST : 151

AVERAGE
TORQUE : 92
R.P.M. : 1437
START OF
INJN. : 15.5
COMBN. : 6.7
DELAY
DEGREES : 6.6
mS : 1.018
MAXIMUM
PRESSURE: 75
RATE : 9.6
TEMPERATURES
AIR INLET: 29
EXHAUST : 226

AVERAGE
TORQUE : 160
R.P.M. : 1451
START OF
INJN. : 19.6
COMBN. : 10.6
DELAY
DEGREES : 9
mS : 1.025
MAXIMUM
PRESSURE: 96.9
RATE : 11.2
TEMPERATURES
AIR INLET: 33
EXHAUST : 400

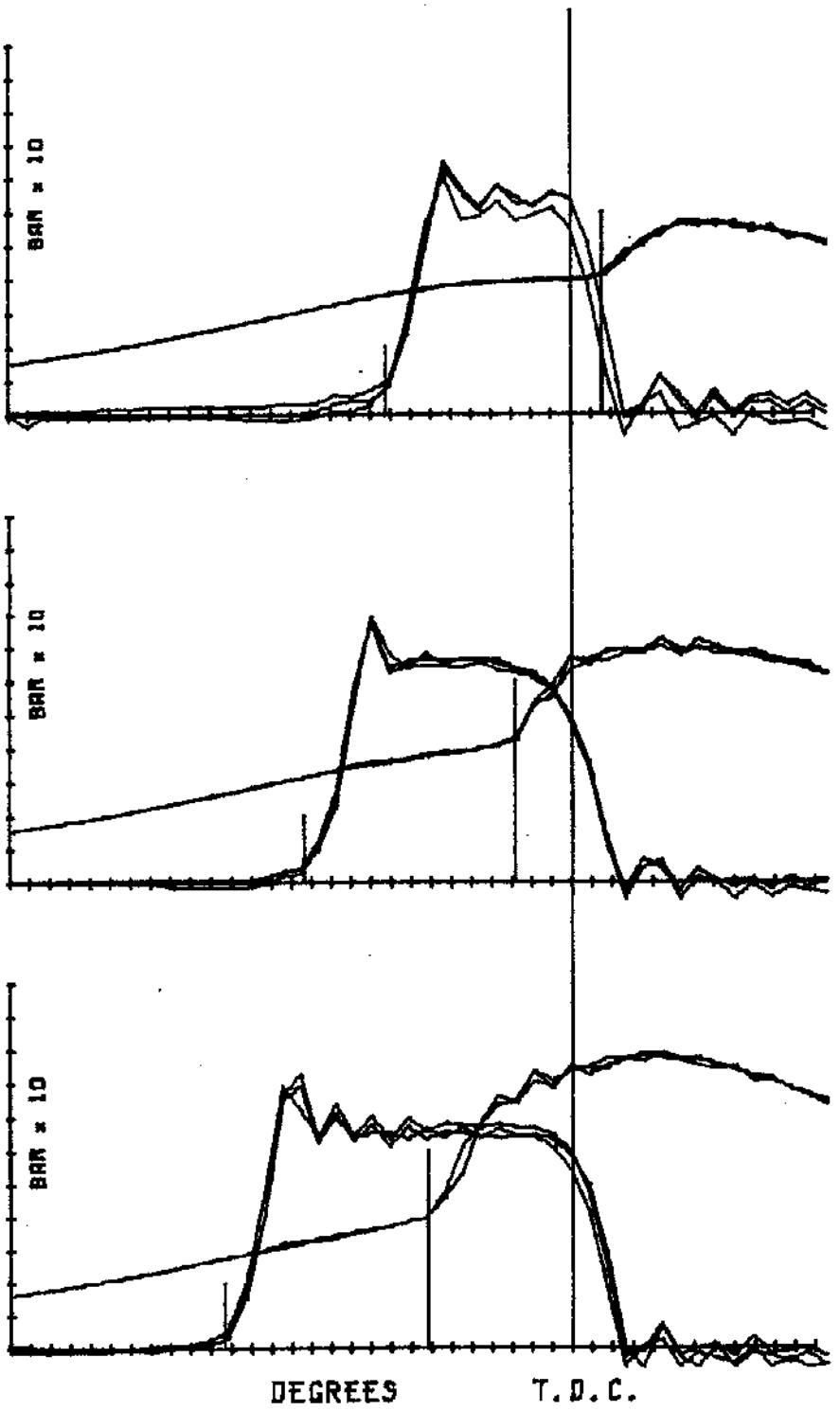
ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : DIST 100 C.V. : 42.75 DENSITY : .849
TEST ID. : UN1D016	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP109



ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : DIST 100 C.V. : 42.75 DENSITY : .849
TEST ID. : UN1D016	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP110

AVERAGE
TORQUE : 3
R.P.M. : 613
START OF
INJN. : 10.6
COMON. : 4.6
DELAT
DEGREES : 6
mS : 1.215
MAXIMUM
PRESSURE: 51.7
RATE : 4.8
TEMPERATURES
AIR INLET: 26
EXHAUST : 93

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : DIST 100 C.V. : 42.75 DENSITY : .849
TEST ID. : UNI0016	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP111

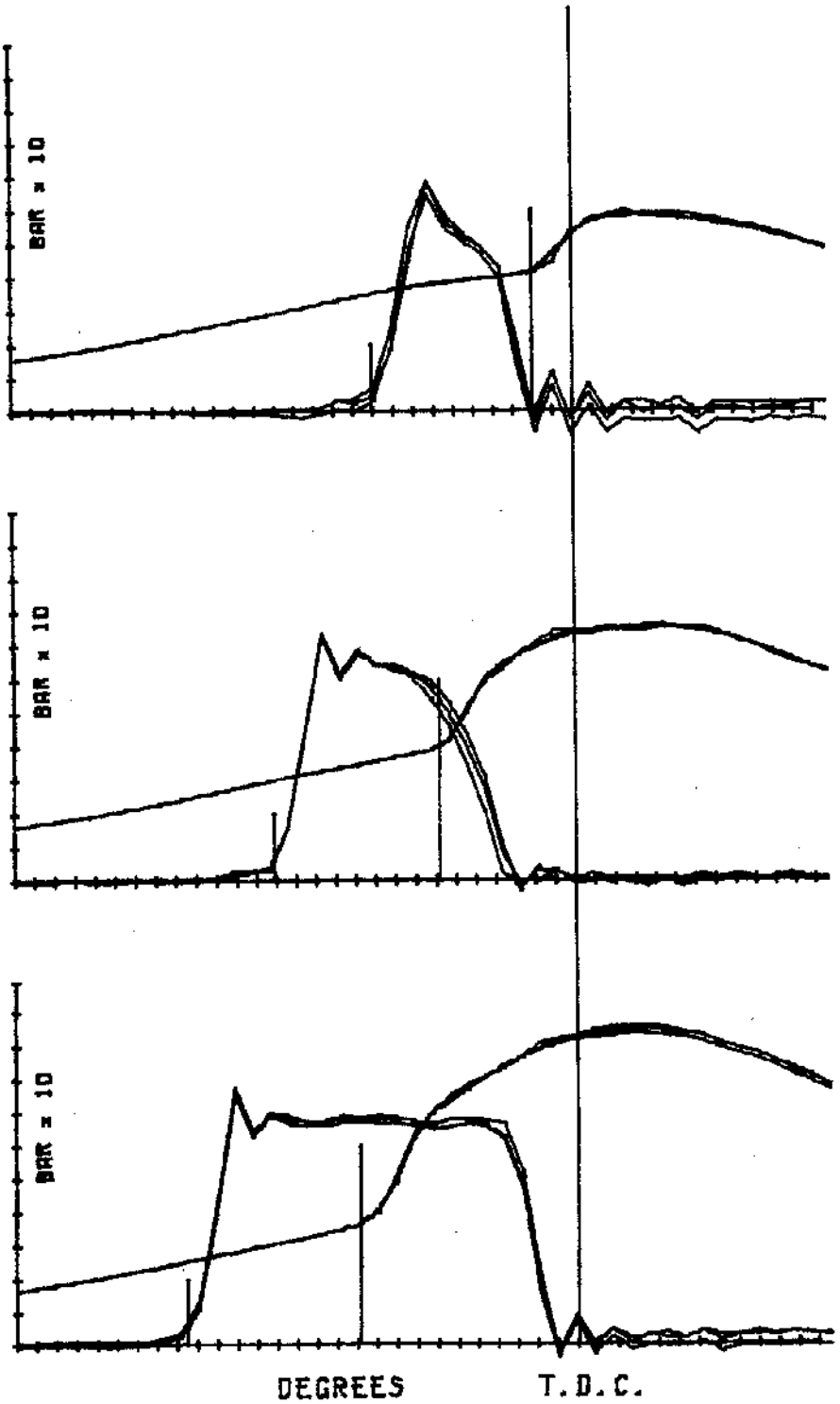


AVERAGE
TORQUE : 37
R.P.M. : 2001
START OF
INJN. : 8.3
COMBN. : -1.8
DELAT
DEGREES : 10.8
mS : .875
MAXIMUM
PRESSURE: 57.1
RATE : 5.7
TEMPERATURES
AIR INLET: 26
EXHAUST : 165

AVERAGE
TORQUE : 80
R.P.M. : 2024
START OF
INJN. : 13.4
COMBN. : 2.6
DELAT
DEGREES : 10.8
mS : .87
MAXIMUM
PRESSURE: 72.1
RATE : 10.1
TEMPERATURES
AIR INLET: 28
EXHAUST : 270

AVERAGE
TORQUE : 142
R.P.M. : 2040
START OF
INJN. : 17.3
COMBN. : 7.2
DELAT
DEGREES : 10.1
mS : .828
MAXIMUM
PRESSURE: 88.3
RATE : 13.8
TEMPERATURES
AIR INLET: 30
EXHAUST : 372

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : E25/3.9TEGDN C.V. : 37.66 DENSITY : .846
TEST ID. : UNID017	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP112

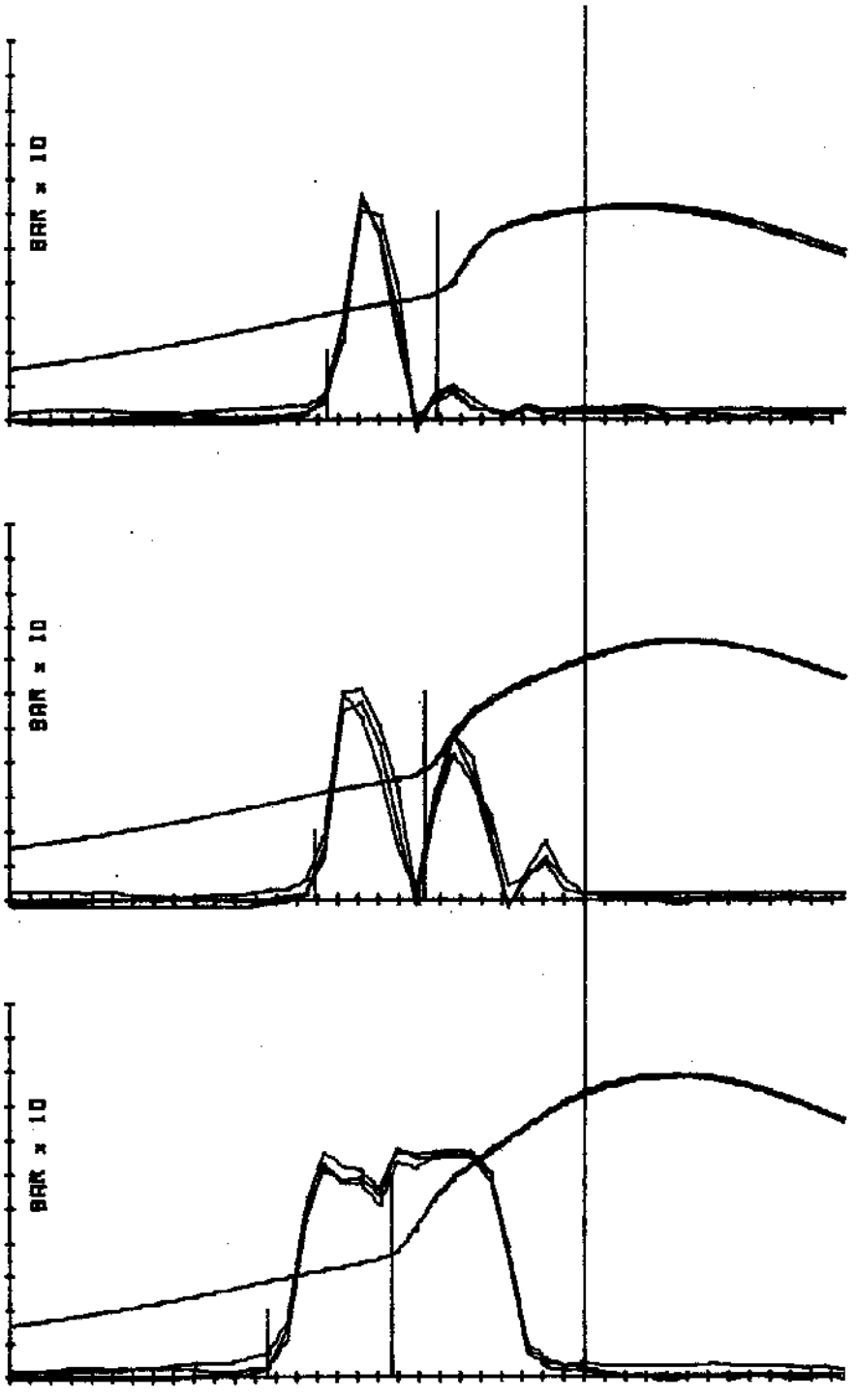


AVERAGE
TORQUE : 34
R.P.M. : 1424
START OF
INJN. : 10.1
COMBN. : 2
DELAY
DEGREES : 6.1
mS : .846
MAXIMUM
PRESSURE: 56.9
RATE : 6.5
TEMPERATURES
AIR INLET: 27
EXHAUST : 145

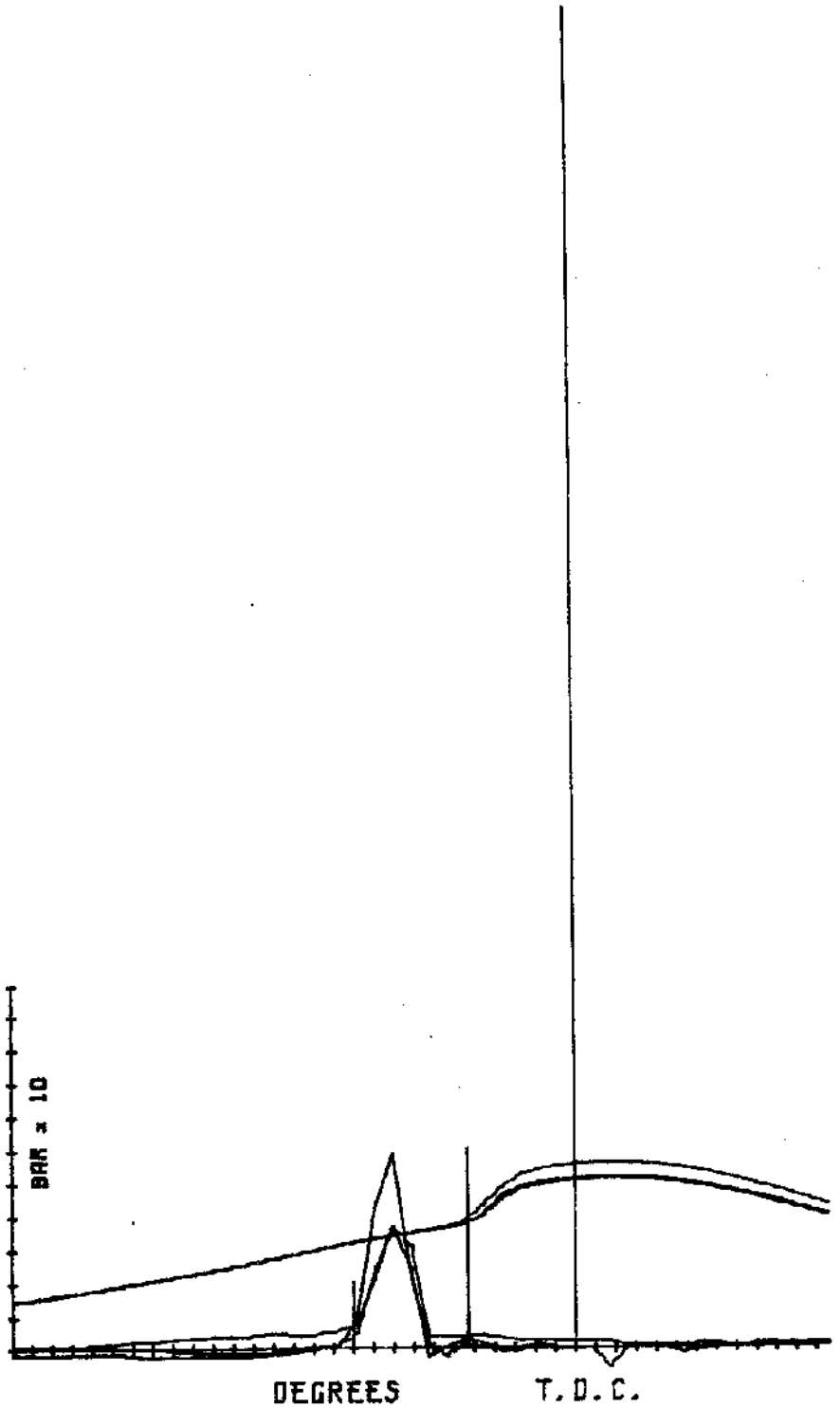
AVERAGE
TORQUE : 69
R.P.M. : 1426
START OF
INJN. : 15.1
COMBN. : 6.6
DELAY
DEGREES : 8.3
mS : .969
MAXIMUM
PRESSURE: 78
RATE : 9.8
TEMPERATURES
AIR INLET: 26
EXHAUST : 221

AVERAGE
TORQUE : 155
R.P.M. : 1436
START OF
INJN. : 19.5
COMBN. : 10.8
DELAY
DEGREES : 8.8
mS : .999
MAXIMUM
PRESSURE: 84.8
RATE : 12.8
TEMPERATURES
AIR INLET: 30
EXHAUST : 396

ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : E25/3.9TEGDN C.V. : 37.66 DENSITY : .846
TEST ID. : UNI0017	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP113

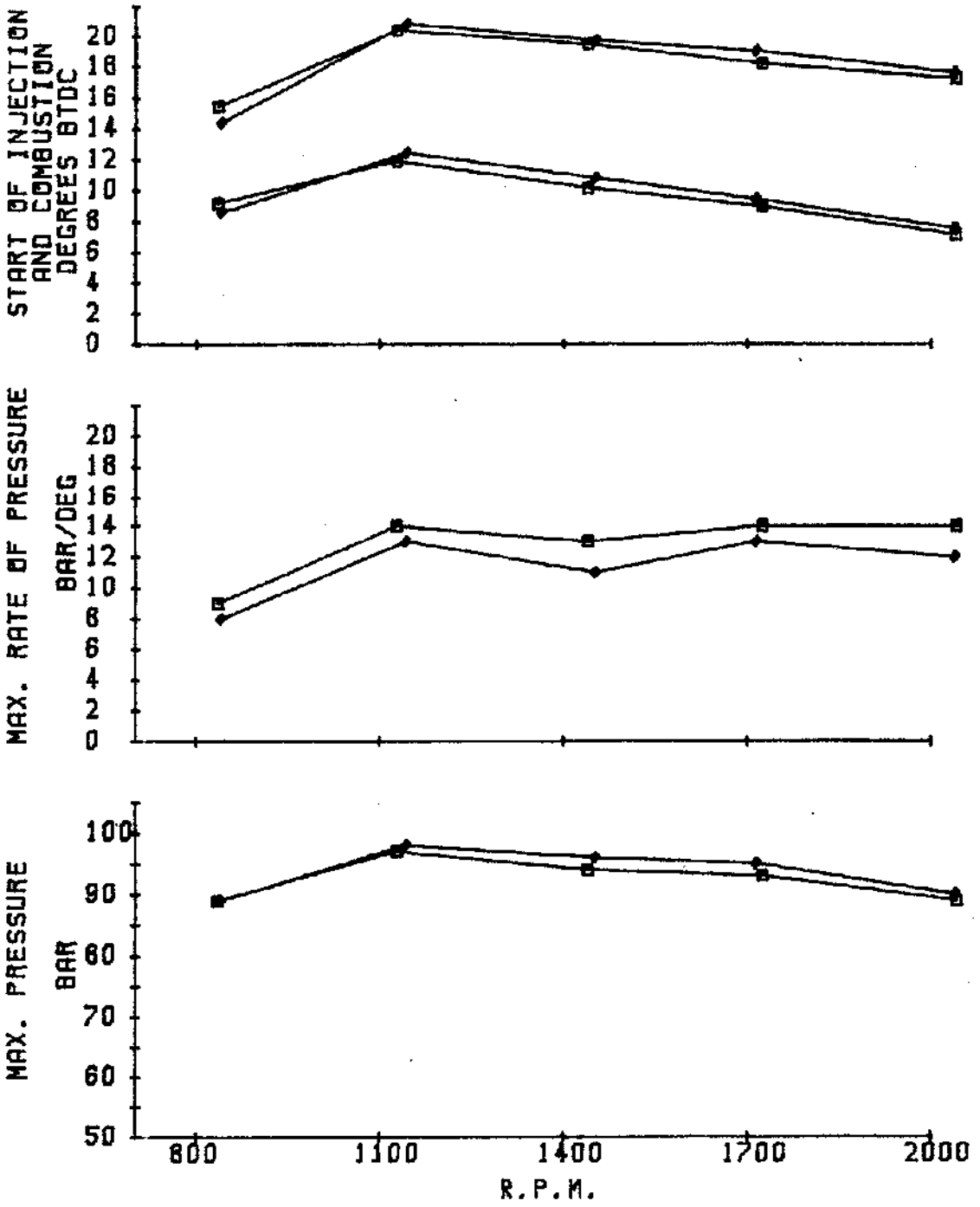


ENGINE : FORD 3000 CAPACITY : 2860	FUEL ID : E25/3.9TEGDN C.V. : 37.66 DENSITY : .848
TEST ID. : UNID017	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP114

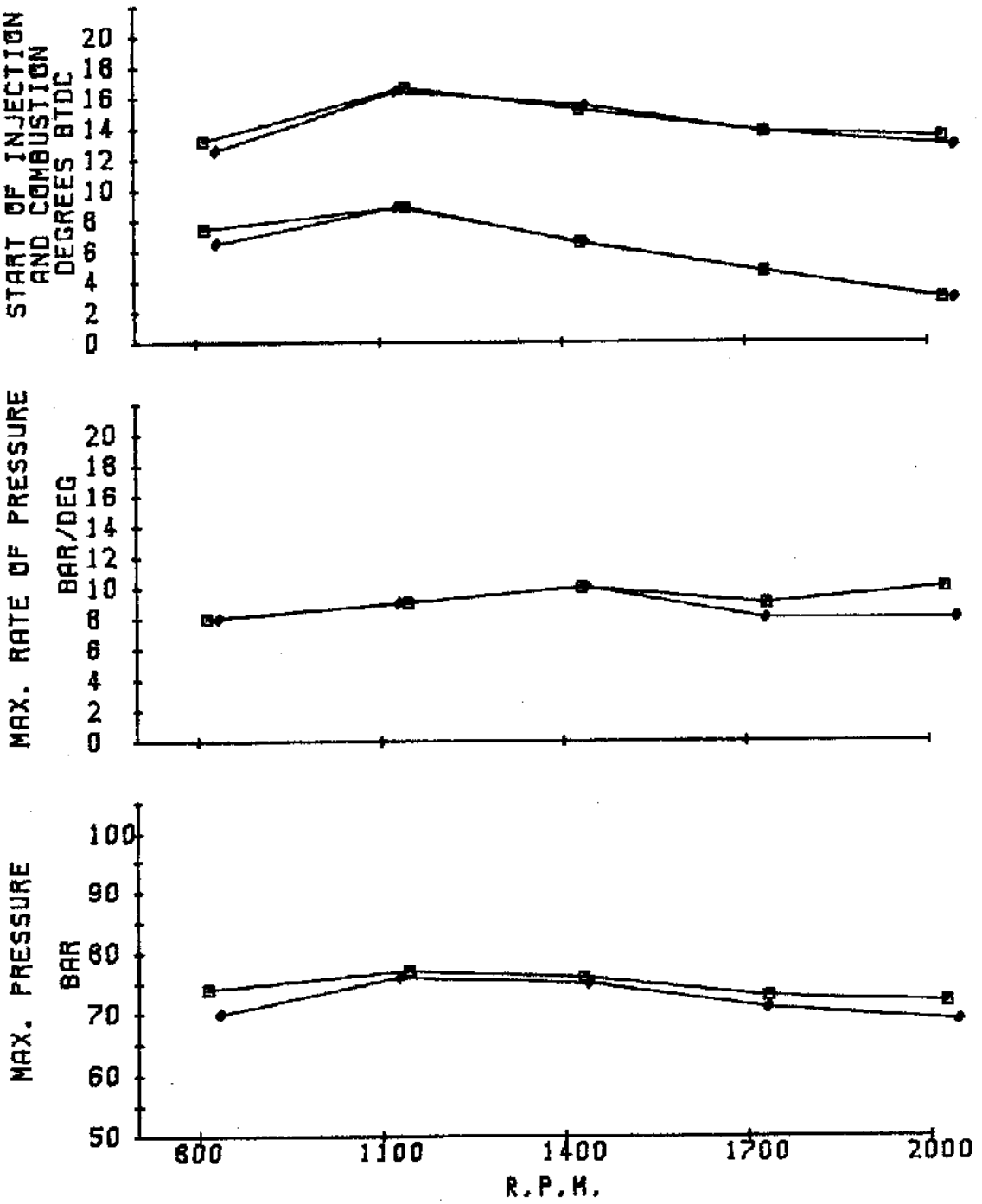


AVERAGE
TORQUE : 3
R.P.M. : 608
START OF
INJN. : 11
COMBN. : 5.3
DELAY
DEGREES : 5.7
mS : 1.176
MAXIMUM
PRESSURE: 53.8
RATE : 5.5
TEMPERATURES
AIR INLET: 28
EXHAUST : 82

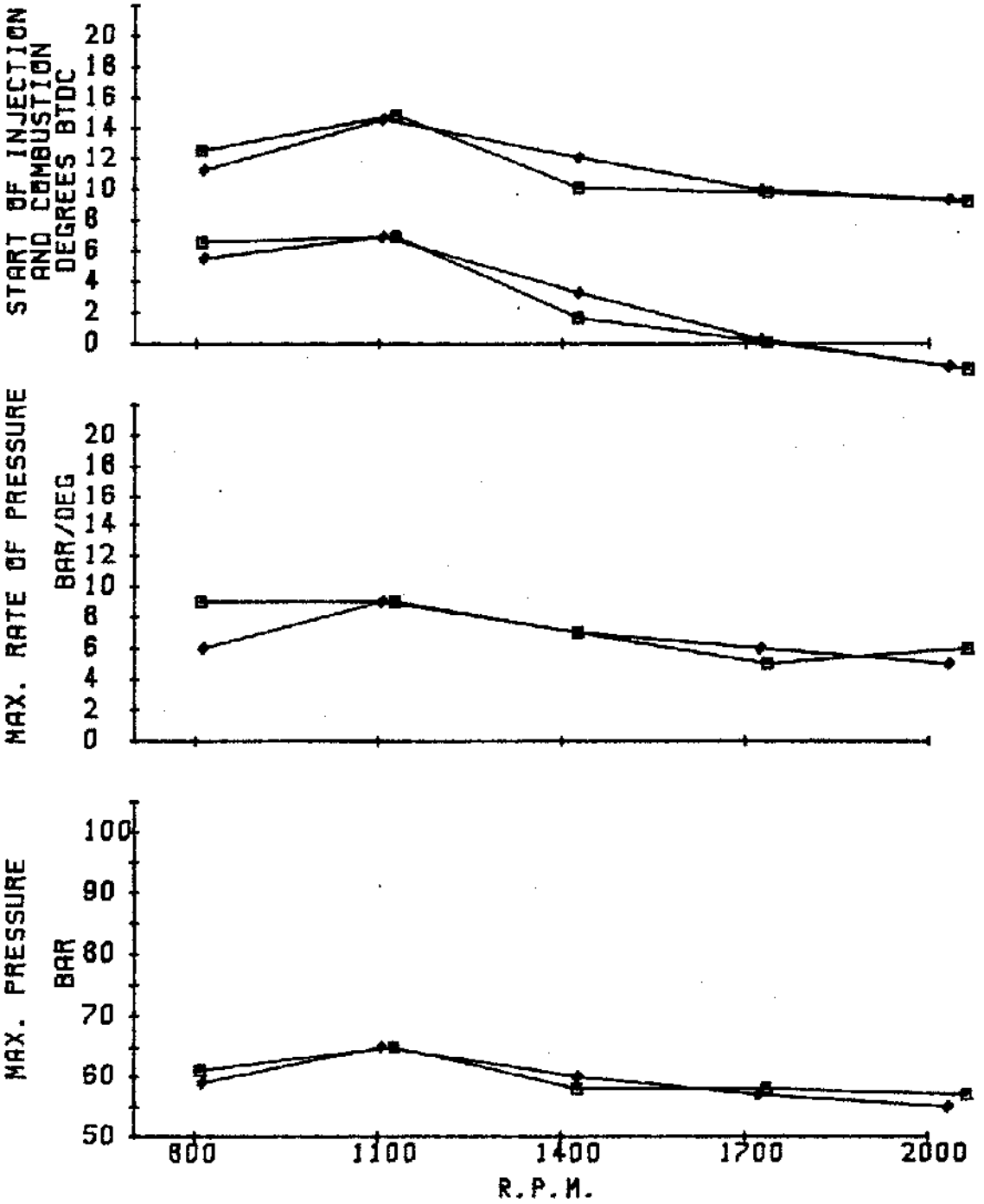
ENGINE : FORD 3000 CAPACITY : 2660	FUEL ID : E25/3.9TEGDN C.V. : 37.66 DENSITY : .848
TEST ID. : UNIDD17	
REPEATABILITY OF NEEDLE LIFT AND CYLINDER PRESSURE	FIG AP115



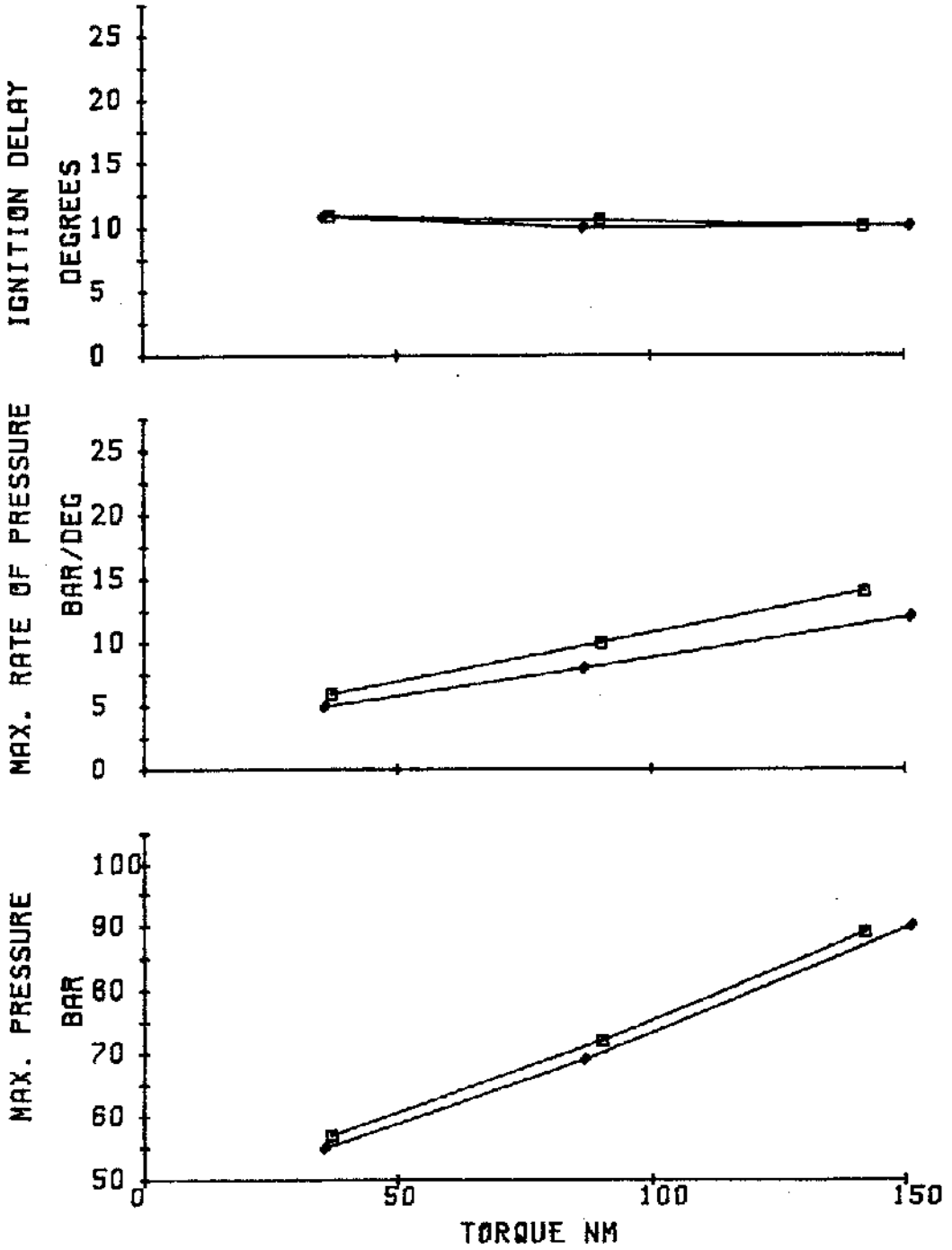
ENGINE : FORD 3000 CAPACITY: 2660	◆ DIST 100 ■ E25/3.9TEGDN
EFFECT OF TEGDN ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	18 deg BTDC FULL LOAD FIG AP116



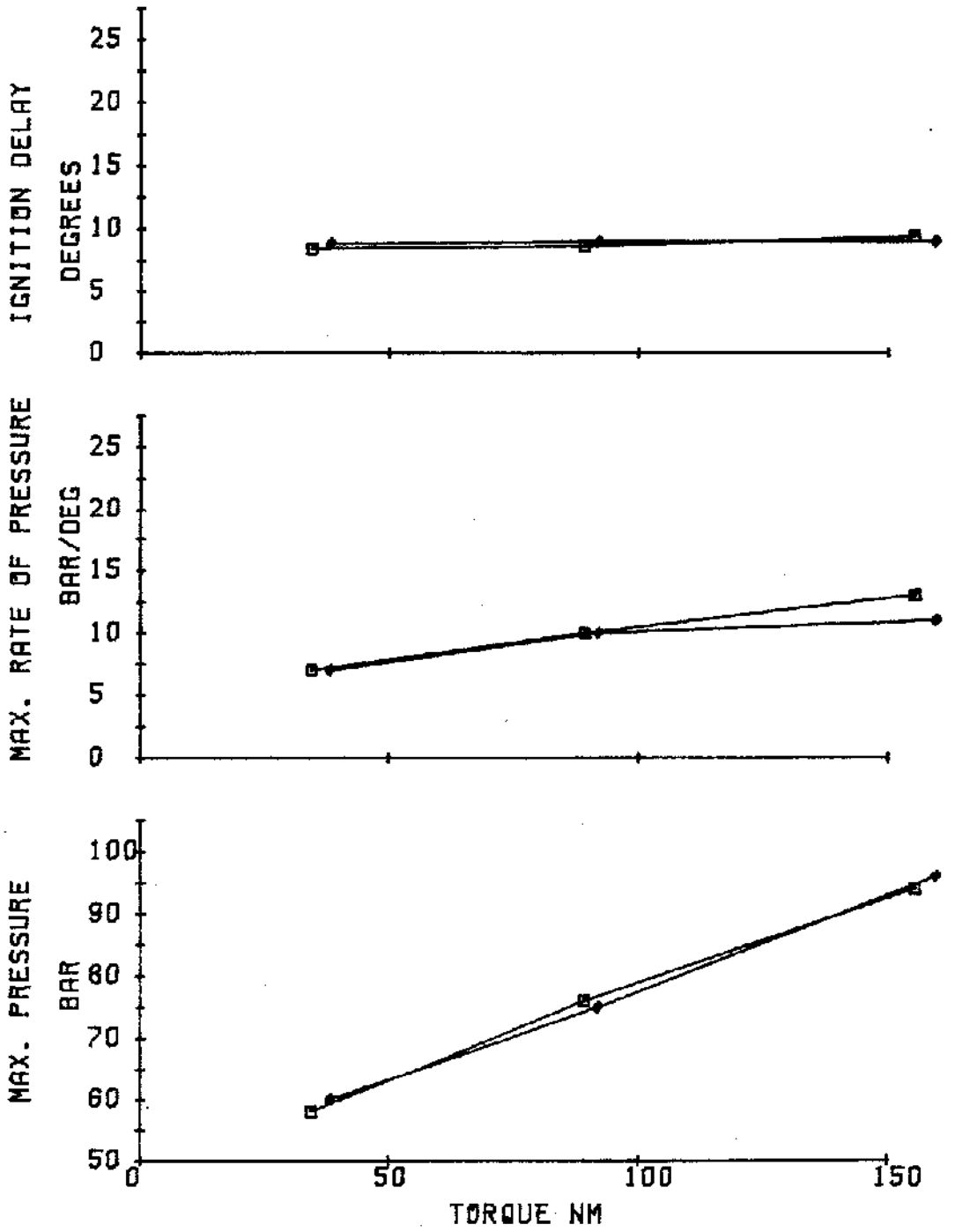
ENGINE : FORD 3000 CAPACITY: 2660	• DIST 100 ▪ E25/3.9TEGDN
EFFECT OF TEGDN ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	16 deg BTDC 2/3 LOAD FIG AP117



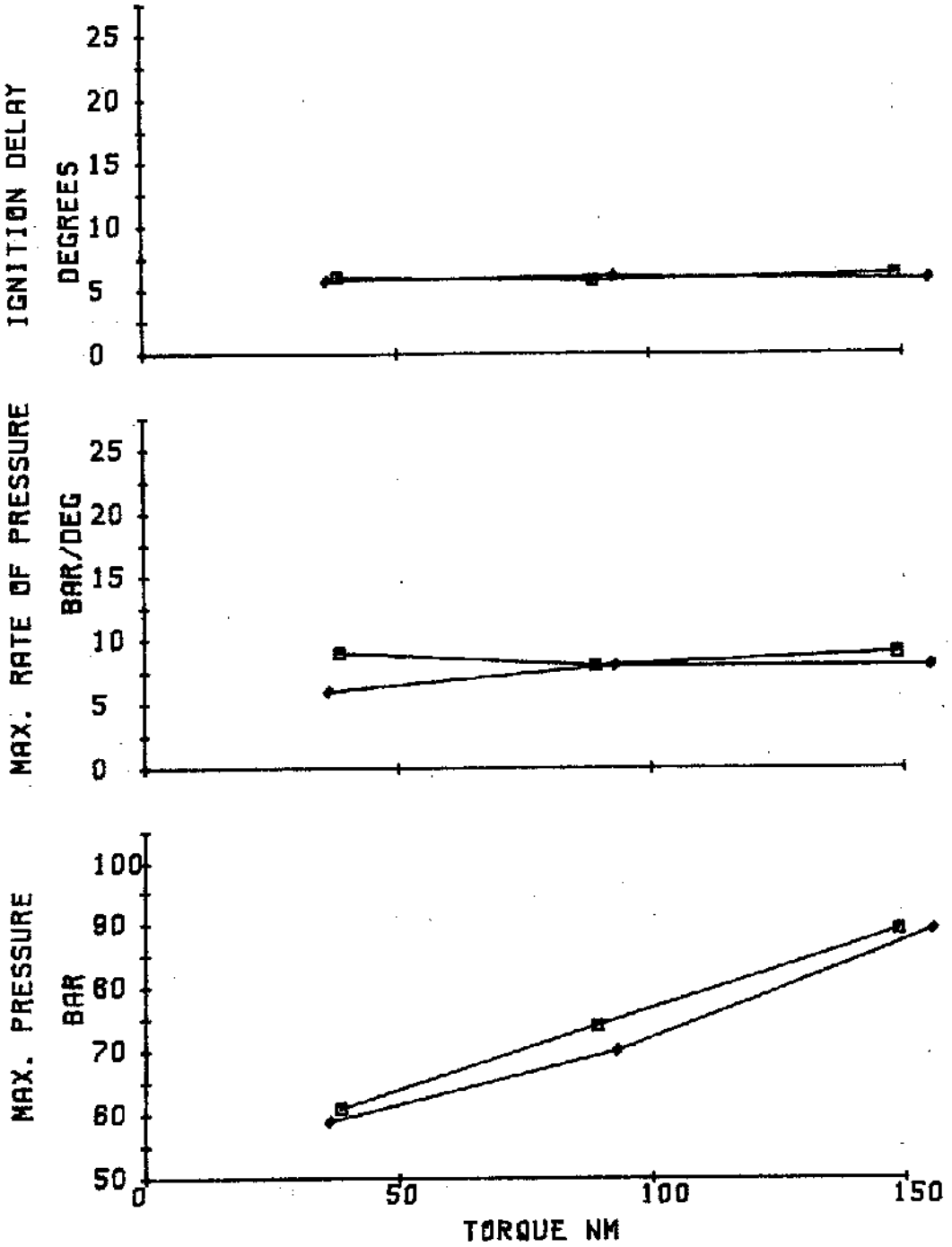
ENGINE : FORD 3000 CAPACITY: 2860	♦ DIST 100 ■ E25/3.9TEGDN
EFFECT OF TEGDN ON START OF: INJECTION, COMBUSTION, MAX. PRESSURE & PRESSURE RATE	16 deg BTDC 1/3 LOAD FIG AP118



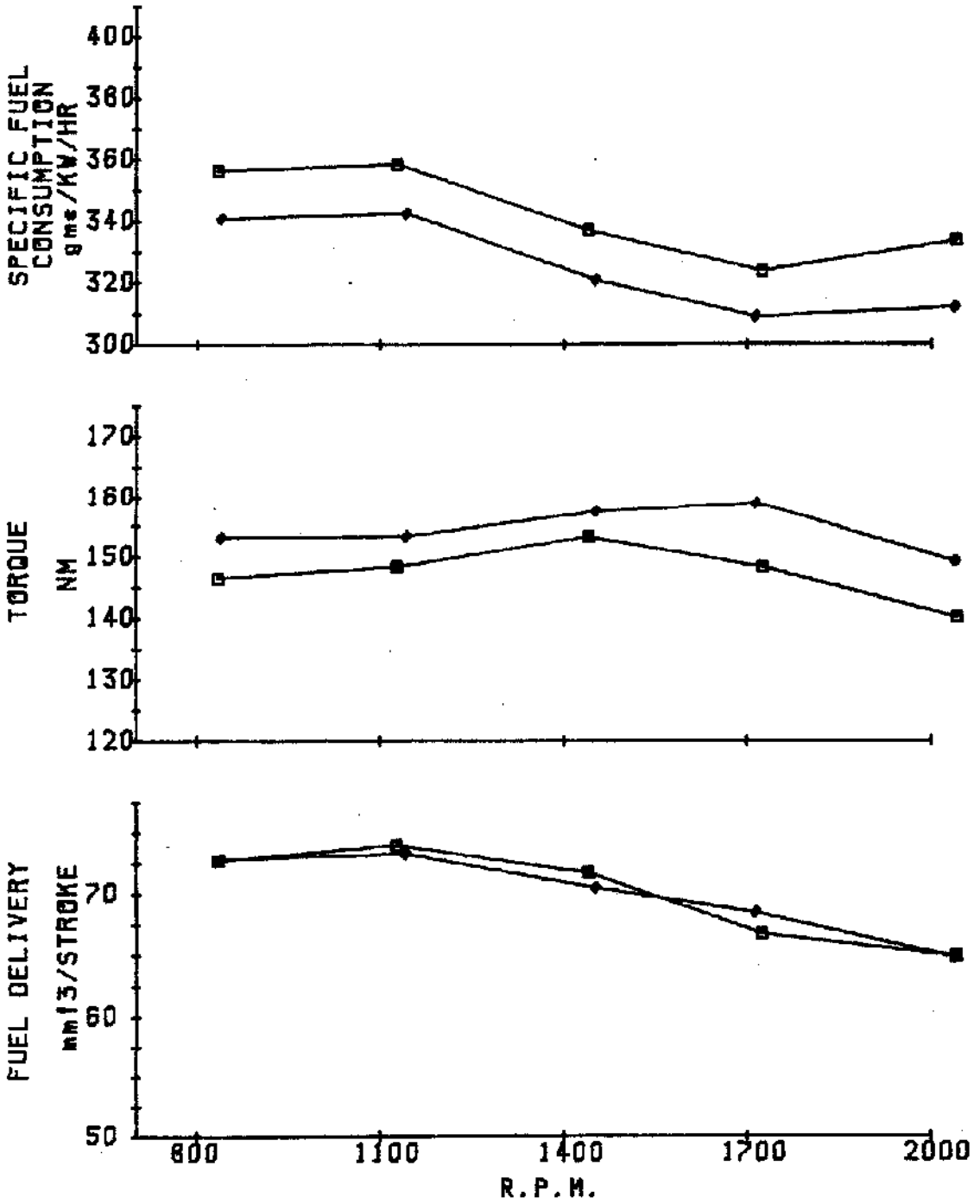
ENGINE : FORD 3000 CAPACITY: 2860	• DIST 100 ▫ E25/3.9TEGDN
EFFECT OF TEGDN ON IGNITION DELAY, MAX. PRESSURE & PRESSURE RATE	16 deg BTDC 2000 R.P.M. FIG AP119



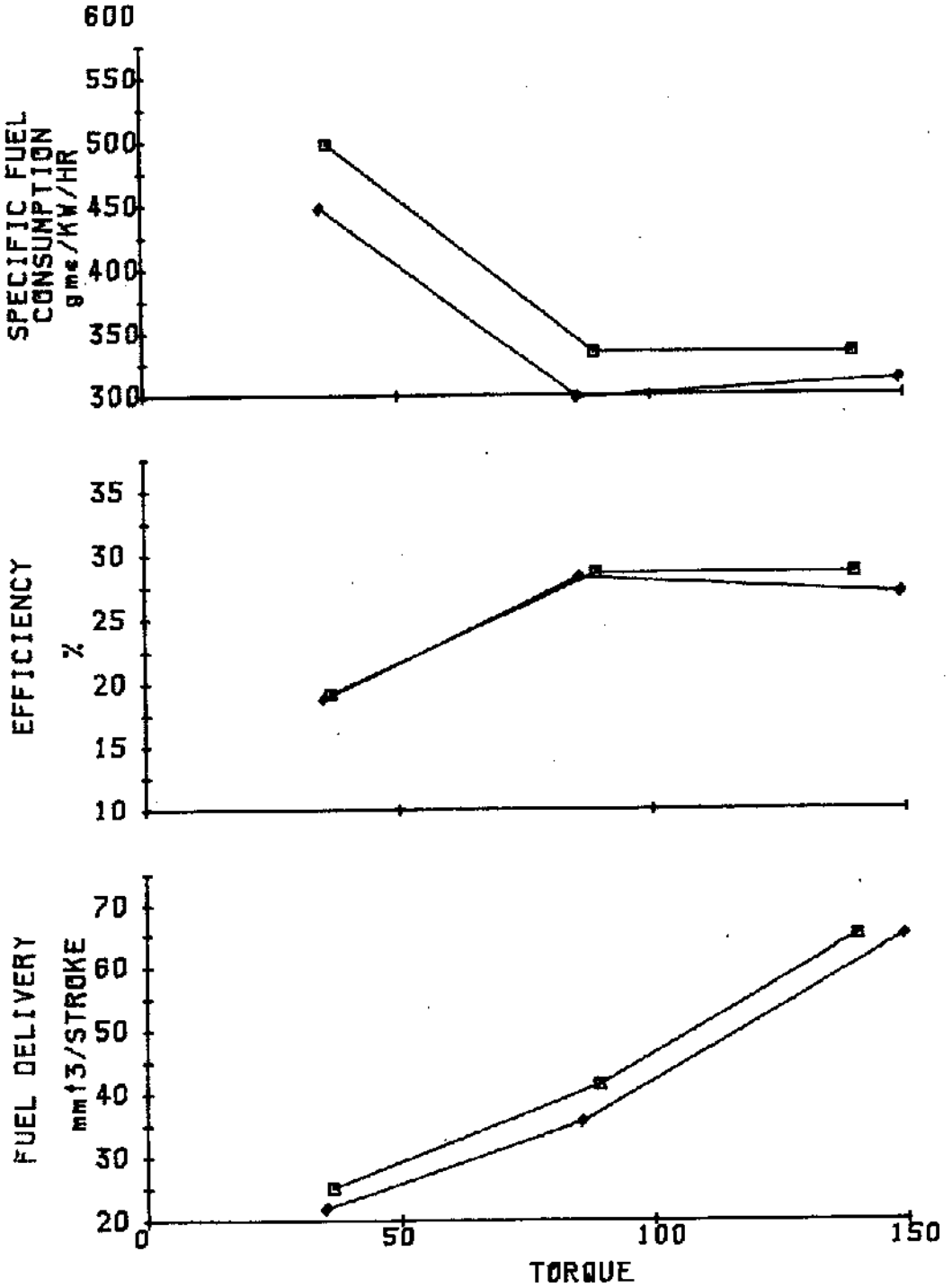
ENGINE : FORD 3000 CAPACITY: 2660	◆ DIST 100 ▫ E25/3.9TEGDN
EFFECT OF TEGDN ON IGNITION DELAY, MAX. PRESSURE & PRESSURE RATE	16 deg BTDC 1400 R.P.M. FIG AP120



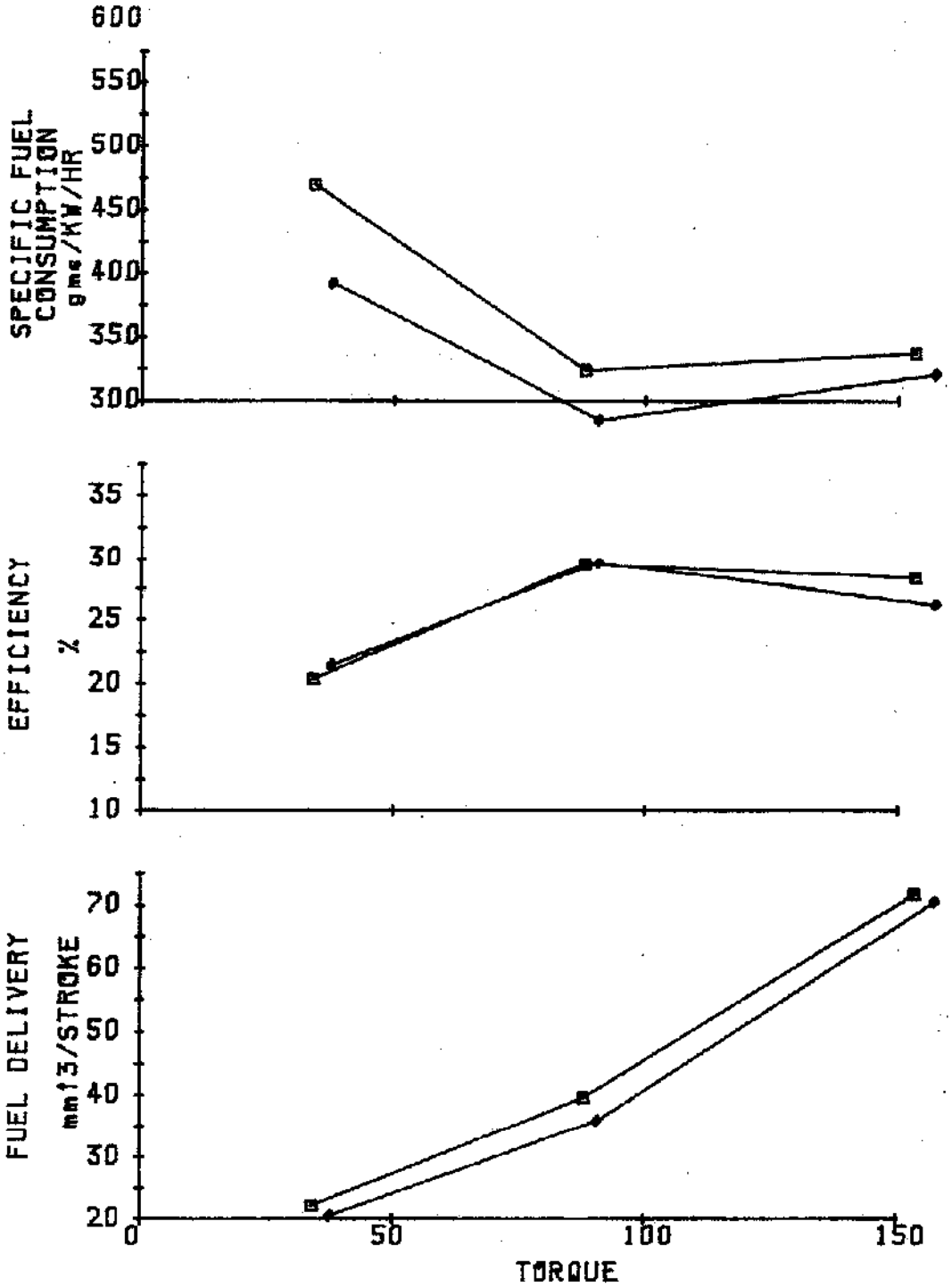
ENGINE : FORD 3000 CAPACITY: 2860	♦ DIST 100 ■ E25/3.9TEGDN
EFFECT OF TEGDN ON IGNITION DELAY, MAX. PRESSURE & PRESSURE RATE	18 deg BTDC 800 R.P.M. FIG AP121



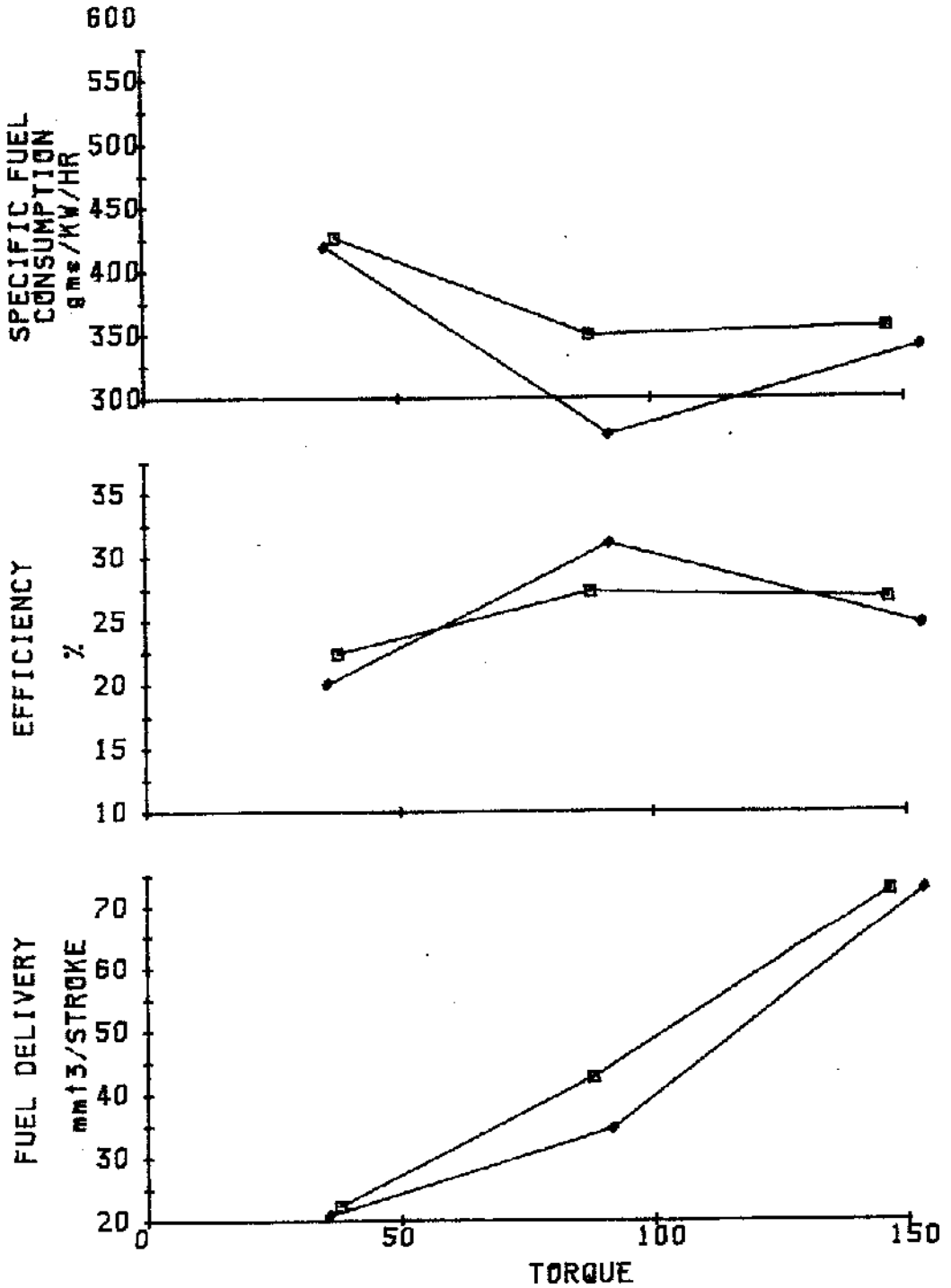
ENGINE : FORD 3000 CAPACITY: 2660	◆ DIST 100 ■ E25/3.9TEGDN
EFFECT OF E25/3.9 TEGDN EMULSION ON INJECTION PUMP DELIVERY, TORQUE & S.F.C.	16 deg BTDC FULL LOAD FIG AP122



ENGINE : FORD 3000 CAPACITY: 2660	♦ DIST 100 ■ E25/3.9TEGDN
EFFECT OF E25/3.9TEGDN EMULSION ON INJECTION PUMP DELIVERY, EFFICIENCY & S.F.C.	16 deg BTDC 2000 R.P.M. FIG AP123



ENGINE : FORD 3000 CAPACITY: 2660	• DIST 100 ▫ E25/3.9TEGDN
EFFECT OF E25/3.9TEGDN EMULSION ON INJECTION PUMP DELIVERY, EFFICIENCY & S.F.C.	16 deg BTDC 1400 R.P.M. FIG AP124



ENGINE : FORD 3000 CAPACITY: 2860	◆ DIST 100 ■ E25/3.9TEGDN
EFFECT OF E25/3.9TEGDN EMULSION ON INJECTION PUMP DELIVERY, EFFICIENCY & S.F.C.	18 deg BTDC 800 R.P.M. FIG AP125