

AGENA COMMAND FUNCTIONS

The following two pages contain all command functions necessary for spacecraft control of the AGENA. The data sheets assume that all Agena functions are off. If any functions are on, it will not affect the system to repeat the commands which turned them on.

For attitude control changes, the PREP COMMANDS for the Translation Docking Assembly are sent first. Then the initiation commands for changing the cardinal headings are given.

The initiation times for the PPS and SPS burn commands are given in seconds prior to the burn.

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GEMINI OPERATIONS HANDBOOK	Flight Crew Support Division	Prepared by <u>BBB</u>
S/C <u>10</u> Rev <u>Orig</u>	Mission Operations Branch	Checked by <u>BBB</u>
Pg <u>1</u> Section <u>3.8.1</u>	Date <u>5/10/66</u>	Approved by <u>BBB</u>

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AGEMA ATTITUDE CONTROL PROCEDURES

0	52	+90	128	180	-128	-90	-52
TDA FORWARD S/C REF COAST		TDA SOUTH COAST		ENGINE FWD S/C REF COAST		TDA NORTH COAST	
*561 GEO RATE - NORMAL *510 ROLL H/S - YAW *521 H/S PHASE - IN 401 ACS - ON } IF REQ 501 H/S - ON } 551 GEO RATE - ON 541 GYROCOMPASSING - ON		*561 GEO RATE - NORMAL *511 PITCH H/S YAW *520 H/S PHASE - OUT 401 ACS - ON } IF REQ 501 H/S - ON } 551 GEO RATE - ON 541 GYROCOMPASSING - ON		*560 GEO RATE - REVERSE *510 ROLL H/S - YAW *520 H/S PHASE - OUT 401 ACS - ON } IF REQ 501 H/S - ON } 551 GEO RATE - ON 541 GYROCOMPASSING - ON		*560 GEO RATE - REVERSE *511 PITCH H/S - YAW *521 H/S PHASE - IN 401 ACS - ON } IF REQ 501 H/S - ON } 551 GEO RATE - ON 541 GYROCOMPASSING - ON	

(-)
TDA DOWN AND LEFT

FC3/FC6 UNDK/DK
410 P/Y MINUS
420 P/Y RATE LOW
300 H/S OFF (IF PITCH)
350 GEO RATE - OFF

PREP
COMMANDS

441 YAW - ON
440 YAW - OFF

YAW

431 PITCH - ON
430 PITCH - OFF

PITCH

(+)
TDA UP AND RIGHT

FC3/FC6 UNDK/DK
411 P/Y PLUS
420 P/Y RATE LOW
300 H/S OFF (IF PITCH)
350 GEO RATE - OFF

441 YAW - ON
440 YAW - OFF

431 PITCH - ON
430 PITCH - OFF

CMS FOR S/C
TO ASSUME CNTRL

300 - H/S OFF
350 - GEO RATE OFF
400 - ACS OFF

UNDOCKED CONTROL MODE

COAST FC-1
460 ACS GAIN LOW
370 ACS PRESS LOW
451 ACS D/B WIDE
271 PWR RELAY RESET

UNDOCKED CONTROL MODE

COAST FC-2
460 ACS GAIN LOW
510 ROLL H/S YAW
or (TDA FORWARD AND AFT)
511 PITCH H/S YAW
(TDA NORTH AND SOUTH)
370 ACS PRESS LOW
450 ACS D/B NARROW
271 PWR RELAY RESET

UNDOCKED CONTROL MODE

MANEUVER AND BURNS FC-3
470 ACS GAIN HI UNDK
371 ACS PRESS HI
450 ACS D/B NARROW
271 PW RELAY RESET

DOCKED CONTROL MODE

COAST AND MANEUVERS FC-6
471 ACS GAIN HI DK
371 ACS PRESS HI
451 ACS D/B WIDE
271 PW RELAY RESET

*MAY BE SENT DURING MANEUVER

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GEMINI OPERATIONS HANDBOOK
 S/C 10 Rev
 Pg 3 Section 3.8.1

Flight Crew Support Division
 Mission Operations Branch
 Date 5/10/66

Prepared by
 Checked by
 Approved by

BURN AT NONCURRENT CARDINAL HEADING

COAST	FC-3 UN DK	YAW	GYROCOMPASS
	FC-6 DK		6 MIN

BURN AT NONCARDINAL HEADING

COAST	FC-3 UN DK	YAW
	FC-6 DK	

BURN AT PITCHED ATTITUDE

COAST	FC-3 UN DK	PITCH
	FC-6 DK	

BURN AT CURRENT CARDINAL HEADING

COAST	FC-3 UN DK
	FC-6 DK

IF NO FURTHER MANEUVERS:
 SEND CMD 341 -
 GYROCOMPASSING - ON

YAW	COAST
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PITCH	COAST
-------	-------

IF NO FURTHER MANEUVERS:
 SEND CMD 341 -
 GYROCOMPASSING - ON

- FC-3
- 470 ACS GAIN HI UNLK
 - 371 ACS PRESSURE HI
 - 450 ACS D/B NARROW
 - 271 FW RELAY RESET

- FC-6
- 471 ACS GAIN HI DK
 - 371 ACS PRESSURE HI
 - 451 ACS D/B WIDE
 - 271 FW RELAY RESET

DOCKED SPS

- | TIME | CMD | TITLE |
|------|-----|--------------------|
| -46 | 450 | D/B NARROW |
| | | ARM STOP SW - ARM |
| -30 | 521 | VM ON |
| -16 | 561 | SPS RDY |
| - 0 | 560 | 200# ON |
| OR | 551 | 16# ON |
| - - | | BURN - - |
| | | VM CUTOFF |
| + 2 | 550 | SPS C.O. |
| | 451 | D/B WIDE |
| | | ARM STOP SW - STOP |
| +10 | 520 | VM OFF |

UNDOCKED SPS

- | TIME | CMD | TITLE |
|------|-----|------------------|
| -60 | 130 | SAFE/ARM DISABLE |
| -30 | 521 | VM ENABLE |
| -16 | 561 | SPS RDY |
| - 0 | 560 | 200 lb. ON |
| OR | 551 | 16 lb. ON |
| --- | | BURN--- |
| | | VM CUTOFF |
| + 2 | 550 | SPS C.O. |
| +10 | 520 | VM DISABLE |

DOCKED PPS

- | TIME | CMD | TITLE |
|------|-----|--------------------|
| -60 | 571 | HYD GAIN DK |
| -46 | 450 | D/B NARROW |
| | | ARM STOP SW-ARM |
| -30 | 521 | VM ON |
| - 0 | 501 | PPS ON |
| - - | | BURN - - |
| | | VM CUTOFF |
| + 2 | 500 | PPS OFF |
| | 451 | D/B WIDE |
| | | ARM STOP SW - STOP |
| +60 | 520 | VM DISABLE |

UNDOCKED PPS

- | TIME | CMD | TITLE |
|-------|-----|------------------|
| -60 | 130 | SAFE/ARM DISABLE |
| | | 570 GAIN UNDK |
| -30 | 521 | VM ENABLE |
| - 0 | 501 | PPS ST |
| - - - | | BURN - - - |
| | | VM CUTOFF |
| + 2 | 500 | PPS OFF |
| +60 | 520 | VM DISABLE |

- DATA RECORD SEQ.
- 041 RECORD ON
 - 030 RECORD/TM OFF
 - 021 TM ON (OVER STA.)

