airline service industry Code No.040103

Type of accidents in airline service in 1999-2021

Type of accidents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Type of accidents
fall from height	10	10	12	21	12	9	11	21	12	6	8	10	9	12	9	12	13	9	14	19	6	5	9	259	fall from height
falling to same level	15	24	16	17	21	15	20	15	14	11	18	14	11	22	20	22	23	29	23	28	25	12	16	431	falling to same level
crash	14	21	37	7	7	15	14	10	23	12	7	14	5	2	22	13	9	26	20	17	23	5	14	337	crash
struck by flying or falling object	2	1	10	11	6	8	9	5	7	3	3	2	3	12	3	10	8	5	5	11	9	1	4	138	struck by flying or falling object
collapse	3			2	2	1	3	1	2	1	1	1	1			2	3	2		1	1			27	collapse
crashed by	14	21	9	10	10	10	3	8	7	12	1	18	10	7	5	48	48	7	10	13	13	3	9	296	crashed by
caught in/between	11	8	9	9	5	10	8	11	17	5	5	8	8	7	11	7	10	7	14	11	20	5	6	212	caught in/between
cut	2	3	1	3	3	6	2	2	3	1			1			2	1	1	3	2	1	3	2	42	cut
injury to the sole of the foot						1		1																2	injury to the sole
drown																									drown
contact to high/low- temperature	4	3	1	3	3	8	2	1	5	6		3	2	6	4	4	6	4	17	6	7			95	contact to high/low- temperature

contact to harmful				1	1	3	1	1			2	1	6	3	15	9	11	9	16	13	2	4			contact to harmful substance
electric shock	1					1																		2	electric shock
explosion																									explosion
burst				1							1													2	burst
fire																									fire
traffic accident (public road)	4	1	8	5	5	14	12	8	14	7	13	8	8	8	6	8	11	25	7	24	5	2		203	traffic accident (public road)
traffic accident (others)	1	3	7	52	35	61	58	39	78	40	16	15	2			7	3	1	5	3	1	6	1	434	traffic accident (others)
reaction to motion/improper motion	42	51	44	55	45	54	55	60	51	41	41	35	37	101	63	64	43	93	108	99	81	42	26	1,331	reaction to motion/improper motion
others	1	12	2	5	10	3	24	21	50	39	38	30	13	18	3	3	5	7	4	4	18	3	23	336	others
unclassifiable			7	20	16	29	13	1	2					4				1			1		3	97	unclassifiable
total	124	158	163	222	181	248	235	205	285	184	154	159	116	202	161	211	194	226	246	251	213	91	113	4,342	total

Causal agents (large) of fatal and non-fatal accidents in airline service in 1999-2021

Causal (L) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Causal (L)
Causar (L) agents		2000	2001	2002	2003	2004	2003	2000	2007	2000	2005	2010	2011	2012	2013	2014	2013	2010	2017	2010	2017	2020	2021	II I	agents
machine				1	1	1	2	2	1						1	1	2							12	machine
crane, conveying																									crane,

machine	40	58	72	106	78	144	126	117	169	102	96	95	62	98	67	89	103	106	91	123	109	31	45	2,127	conveying
machine																									machine
athor aguinment	15	36	24	29	20	25	25	13	27	20	19	16	9	25	11	28	23	17	29	41	16	7	14		other
other equipment	13	30	24	29	20	25	25	13	27	20	19	10	9	25		20	23	17	29	41	16		14	489	equipment
tompovom buildings																									temporary
temporary buildings, establishments	15	14	10	17	19	11	18	25	21	14	14	17	4	19	21	30	25	31	30	19	39	19	17	449	buildings,
establistifferits																									establishments
substance, material	3	1	2	3	1	1	1	3	5	3			2	5		2	1	,	3	2	1	1	1	43	substance,
substance, material	3			3	ľ			3		3									3	2	•	'		43	material
load	12	17	13	23	10	10	16	17	27	15	5	13	18	22	17	24	17	20	41	23	22	15	10	407	load
environment	5	15	9	9	8	4	9	13	26	12	3	1	12	16	17	10	12	29	29	22	12	2	2	277	environment
others	34	17	33	34	44	52	38	15	9	18	17	17	9	17	27	27	11	21	23	21	14	16	24	538	others
total	124	158	163	222	181	248	235	205	285	184	154	159	116	202	161	211	194	226	246	251	213	91	113	4,342	total

Causal agents (middle) of fatal and non-fatal accidents in airline service in 1999-2021

Causal (M) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Causal (M) agents
engine																	1							1	engine
power transmission mechanism																									power transmission mechanism
woodworking machine																									woodworking machine

construction machine					1	1	1	1	1															5	construction
																									machine
metal manufacturing				1																				1	metal manufacturing
machine																									machine
general machine							1	1							1	1	1							5	general
general machine							I	1									I)	machine
mobile silviculture																									mobile
machine																									silviculture machine
crane	2												1	1				1						5	crane
																									conveying
conveying machine	7	8	8	11	2	8	2	5	3		5	3	5	3	3	2	2	5	9	5	12	1	8	117	machine
vehicle	31	50	64	95	76	136	124	112	166	102	91	92	56	94	64	87	101	100	82	118	97	30	37	2,005	vehicle
pressure vessel						1																		1	pressure vessel
chemical facilities																									chemical
																									facilities
welding equipment													1											1	welding
																									equipment
kiln, caldron															1	1	2		1					5	kiln, caldron
electric equipment				1										1						1		1		4	electric
																									equipment
human power machine,	6	6	4	8	8	12	15	7	9	7	1	3	4	3	3	8	5	5	4	12	4	4	2	140	human power
tools																									machine, tools

tools	4	11	11	7	4	6	9	3	8	5	7	8	3	6	2	13	10	4	8	13	4	1	6	153	tools
other equipments,	5	19	9	13	8	6	1	3	10	8	11	5	1	15	5	6	6	8	16	15	8	1	6	185	other equipments, facilities
temporary buildings, establishments	15	14	10	17	19	11	18	25	21	14	14	17	4	19	21	30	25	31	30	19	39	19	17	449	temporary buildings, establishments
hazards, harmful substances	1			1			1	1	4	2			1						3	1				15	hazards, harmful substances
materials	2	1	2	2	1	1		2	1	1			1	5		2	1	2		1	1	1	1	28	materials
load	12	17	13	23	10	10	16	17	27	15	5	13	18	22	17	24	17	20	41	23	22	15	10	407	load
natural environment	5	15	9	9	8	4	9	13	26	12	3	1	12	16	17	10	12	29	29	22	12	2	2	277	natural environment
other causal agent	12	7	8	6	13	25	10	7	2	4	11	11	5	2	8	10	2	9	5	7	1		19	184	other causal
no causal agent	21	6	17	21	24	24	20	7	5	14	6	5	4	9	17	17	9	12	17	14	12	16	5	302	no causal agent
unclassifiable	1	4	8	7	7	3	8	1	2			1		6	2				1		1			52	unclassifiable
total	124	158	163	222	181	248	235	205	285	184	154	159	116	202	161	211	194	226	246	251	213	91	113	4,342	total

Causal agents (small) of fatal and non-fatal accidents in airline service in 1999-2021

Causal (S) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Causal (S) agents

engine									1				1	engine
power transmission														power transmission
mechanism														mechanism
circular sawing														circular sawing
machine														machine
band sawing														band sawing
machine														machine
wood planer														wood planer
machine														machine
hollow chisel														hollow chisel
mortiser, wood														mortiser, wood
borer														borer
chamfering														chamfering
machine, router,														machine, router,
woodworking														woodworking
milling machine														milling machine
chain saw														chain saw
other woodworking														other woodworking
machines														machines
leveling,														leveling,
transporting or														transporting or
loading machine														loading machine
excavating machine														excavating machine
foundation work														foundation work
machine														machine

hardening machine															hardening machine
demolition machine															demolition machine
vehicle for high lift work			1		1	1								3	vehicle for high lift work
other construction machines				1										∥1	other construction machines
lathe															lathe
drill press, milling machine															drill press, milling machine
grinding machine, buffing machine															grinding machine, buffing machine
power press															power press
forging pressure hammer															forging pressure hammer
shearing machine															shearing machine
other metal manufacturing machines															other metal manufacturing machines
centrifugal machine															centrifugal machine
mixer, grinder															mixer, grinder
roll machine (except printingroll machine)															roll machine (except printingroll machine)
injection molding															injection molding

machine																	machine
food manufacturing										1	1					2	food manufacturing
printing machine																	printing machine
industrial robot																	industrial robot
other general power machines				1	1							1				3	other general power machines
felling machine																	felling machine
mobile logging machine																	mobile logging
skyline yarding machine																	skyline yarding machine
other mobile																	other mobile
silviculture machine																	silviculture machine
crane																	crane
mobile crane																	mobile crane
derrick crane																	derrick crane
elevator, lift								1	1				1			3	elevator, lift
cargo lifting																	cargo lifting appliance
gondola																	gondola
lumberyard																	lumberyard
equipment, logging																	equipment, logging
cableway																	cableway

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simple skyline																									simple skyline
yarding equipment																									yarding equipment
other powered																									other powered
crane																									crane
truck			2					3					2	2	1			3	5		3			21	truck
forklift			1						1		1	1				1			2			1		8	forklift
railway equipment																									railway equipment
conveyor			2					1	1		1			1	2				1		1		2	12	conveyor
loader																		1		1	1			3	loader
straddle carrier																									straddle carrier
rough terrain hauler																									rough terrain hauler
other powered			3		2		2	1	1		3	2	3			1	2		1	4	7		6	39	other powered
conveying machines			3				2	I	ı		3		3			I	2		ľ	4			0		conveying machines
cars, bus,			9		9		14	10	17	9	16	15	7	10	10	16	14	26	12	32	7	2	2	237	cars, bus,
motorcycle			9				14	10	'							10	14	20	12	32	,				motorcycle
railway vehicle																				1				1	railway vehicle
other vehicles			55		67		110	102	149	93	75	77	49	84	54	71	87	74	70	85	90	28	35	1,455	other vehicles
boiler																									boiler
pressure vessel																									pressure vessel
other pressure																									other pressure
vessels																									vessels
chemical facilities																									chemical facilities
gas welding													1											1	gas welding

equipment																						equipment
arc welding																						arc welding
equipment																						equipment
other welding																						other welding
equipment																						equipment
kiln, caldron												1	1	2							4	kiln, caldron
industrial dryer																						industrial dryer
other kiln, caldron																1					1	other kiln, caldron
transmission											1										1	transmission
electric power																						electric power
facilities																						facilities
other electrical																						other electrical
equipment																	1		1		2	equipment
human power																						human power
cranes																						cranes
human power		1	6	13	7	9	7	1	3	4	2	3	8	5	5	4	12	4	3	2	99	human power
hauling equipment			0	13		9			3		2	3	0	3	3	4	12	4	3		99	hauling equipment
human power		_		_																		human power
machine				I																	3	machine
hand tool		2	1	1							1								1		6	hand tool
ladder		4	3	3		2	4	2	2		4	1	4	1		4	7	2		3	46	ladder
slinging tool							1														1	slinging tool
other tools		7	1	6	3	6		5	6	3	2	1	9	9	4	4	6	2	1	3	78	other tools
other equipment,																						other equipment,

facilities		9	8	1	3	10	8	11	5	1	15	5	6	6	8	16	15	8	1	6	142	facilities
scaffolding			1			1	1							1							4	scaffolding
timbering																						timbering
stairs, landing stage		3	6	4	10	3	7	7	7	1	4	6	8	8	8	9	3	3	4	3	104	stairs, landing stage
opening			2																		2	opening
roof, beam, haze, crossbeam, principal rafter																						roof, beam, haze, crossbeam, principal rafter
working platform, boot board		1	1	1	2			2	1		2	3	1	3	1	7	1	5	1		32	working platform, boot board
passage		3	6	9	9	11	5	3	5	1	8	11	14	6	11	7	11	7	2	9	138	passage
building, establishment		1		3	1	3		1	3		2		2	4	3	3	1	1	1	3	32	building, establishment
other temporary buildings, establishments		2	3	1	3	3	1	1	1	2	3	1	5	3	8	4	3	23	11	2	80	other temporary buildings, establishments
explosive substance																						explosive substance
inflammable substance																						inflammable substance
inflammable gas																						inflammable gas
harmful substance																						harmful substance
radiation																						radiation
other hazards,				1	1	4	2			1						3	1				13	other hazards,

										<u> </u>		<u> </u>	<u> </u>	<u> </u>	<u> </u>		<u> </u>					
metal material						1	1			1	2				1						6	metal material
lumber, bamboo																						lumber, bamboo
stone, sand,													1								1	stone, sand,
substance													I									substance
other materials		2	1		2						3		1	1	1		1	1	1	1	15	other materials
load		13	10	16	15	27	15	5	13	18	21	17	24	17	19	40	23	22	14	10	339	load
machine/equipment											1				1	1			1		6	machine/equipment
as load					2										I							as load
natural ground,		1	1	1								1			1		1	1		1	12	natural ground,
rock		I		I	2					2		I			I		I				12	rock
standing tree		1		1						1			1								4	standing tree
water					1																1	water
abnormal																					443	abnormal
environment					9	11	1	1	1	6	14	16	6	10	21	22	21	1			143	environment
high/cold																						high/cold
temperature										1				2	1	3		2			9	temperature
environment																						environment
other environments		6	7	6	1	15	11	2		2	2		3		6	4		8	2		75	other environments
other causal agent		8	13	10	7	2	4	11	11	5	2	8	10	2	9	5	7	1		19	134	other causal agent
no causal agent		17	24	20	7	5	14	6	5	4	9	17	17	9	12	17	14	12	16	5	230	no causal agent
unclassifiable		8	7	8	1	2			1		6	2				1		1			37	unclassifiable
total		163	181	235	205	285	184	154	159	116	202	161	211	194	226	246	251	213	91	113	3,590	total

Age	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Age
19 years old or less		2	1	1				1			1					2	1		3			1		13	19 years old or less
20-29	62	74	64	82	79	81	82	68	70	52	38	51	25	50	50	66	71	91	98	116	97	33	59	1,559	20-29
30-39	28	36	44	78	56	99	91	84	126	76	55	58	64	82	61	59	50	55	63	51	47	22	24	1,409	30-39
40-49	21	28	36	40	27	41	32	22	53	34	37	32	18	50	34	59	43	44	39	49	40	15	10	804	40-49
50-59	13	16	17	18	18	27	29	26	34	21	21	14	9	16	15	22	23	32	35	24	22	16	16	484	50-59
60 years old or		2	1	3	1		1	4	2	1	2	4		4	1	3	6	4	8	11	7	4	4	73	60 years old or
more			•		_		'	_		•								_					_		more
total	124	158	163	222	181	248	235	205	285	184	154	159	116	202	161	211	194	226	246	251	213	91	113	4,342	total

Workers' number of workplace of fatal and non-fatal accidents in airline service in 1999-2021

Workers scale	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Workers scale
9 workers or less	4	1	2	3	12	6	2	5	4	1		5	2	4	1	5	2	4	10	5	3	2	2	85	9 workers or less
10-29	2	3	5	11	1	5	4	4	2	3	4	5	5	3	2	4	3		3	3	2	1	5	80	10-29
30-49	1		5	3	1	4	2	3	2	1	1	1	4	1	3	1	7	7	8	1	2		3	61	30-49
50-99	7	8	1	8	4	5	5	5	6	1	6	7	7	6		3	6	7	11	9	9	1	2	124	50-99
100-299	18	21	25	25	29	28	17	17	28	13	18	16	9	15	10	16	11	12	20	10	16	6	13	393	100-299
300 workers or	92	125	125	172	134	200	205	171	243	165	125	125	89	173	145	182	165	196	194	223	181	81	88	3,599	300 workers or
more		123		172		200	203	.,,	213		123	123		.,,		102	103							'	more
total	124	158	163	222	181	248	235	205	285	184	154	159	116	202	161	211	194	226	246	251	213	91	113	4,342	total

Month	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Month
January	8	11	21	17	16	11	19	18	26	15	16	15	6	17	13	16	18	10	16	20	22	22	11	364	January
February	8	14	12	6	17	14	21	24	25	11	11	12	11	16	15	22	12	19	17	23	15	15	5	345	February
March	11	22	16	17	17	31	16	26	24	5	15	11	14	8	15	17	25	17	22	17	23	10	7	386	March
April	10	7	18	11	17	10	16	14	51	13	11	7	3	16	9	16	12	15	17	22	10	5	9	319	April
May	10	16	14	18	19	23	32	11	20	24	14	17	7	15	13	25	19	26	16	20	25	1	7	392	May
June	12	10	23	5	13	18	31	16	26	15	16	11	15	19	10	9	19	17	11	24	18	2	5	345	June
July	10	8	9	18	14	25	11	12	32	18	13	11	12	22	19	22	16	12	27	26	23	7	14	381	July
August	7	18	16	20	14	24	26	13	25	18	11	13	7	22	20	9	16	24	38	24	17	4	20	406	August
September	11	18	2	18	12	22	13	21	14	8	16	15	11	28	8	27	21	27	26	21	18	5	7	369	September
October	10	13	19	30	17	32	14	23	16	17	10	15	11	14	15	16	16	19	25	15	10	9	9	375	October
November	10	12	7	26	5	20	23	21	15	25	8	13	11	17	12	15	15	22	12	16	14	6	9	334	November
December	17	9	6	36	20	18	13	6	11	15	13	19	8	8	12	17	5	18	19	23	18	5	10	326	December
total	124	158	163	222	181	248	235	205	285	184	154	159	116	202	161	211	194	226	246	251	213	91	113	4,342	total

Prefecture of fatal and non-fatal accidents in airline service in 1999-2021

Prefecture	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Prefecture
Hokkaido	3				2		3	1	3	1	4	3	2	8	4	6	6	7	13	9	12	6		93	Hokkaido
Aomori								1									1							2	Aomori
lwate																						1		1	lwate

Miyagi	1		1		1				1							1	5	1			2	13	Miyagi
Akita								2														2	Akita
Yamagata														2								2	Yamagata
Fukushima																							Fukushima
Ibaraki																							Ibaraki
Tochigi										1						1	1					3	Tochigi
Gunma																		2				2	Gunma
Saitama		7	3			2				2		1	1				1				1	18	Saitama
Chiba	50	83	81	82	114	90	115	69	52	44	25	42	39	52	45	64	46	49	33	12	8	1,195	Chiba
Tokyo	37	31	41	58	84	63	87	68	56	71	57	121	92	121	108	122	126	147	120	54	63	1,727	Tokyo
Kanagawa														1								1	Kanagawa
Niigata										1			1					1				3	Niigata
Toyama																							Toyama
Ishikawa																							Ishikawa
Fukui																							Fukui
Yamanashi											1										1	2	Yamanashi
Nagano				1		1											1				1	4	Nagano
Gifu			1	1																		2	Gifu
Shizuoka											1				2		1		1		1	6	Shizuoka
Aichi	4	1	3	2	1	3			2	2		1	3	1	5	3	10	5	6		2	54	Aichi
Mie			4						1		1	1										7	Mie
Shiga			1								1											2	Shiga
Kyoto																							Kyoto

Osaka	13	24	19	18	14	26	56	24	16	12	11	11	6	11	10	13	18	15	21	6	22	366	Osaka
Hyogo										1					1	1		1				4	Hyogo
Nara	1			1	3	2	1			1	1	1		1					1		1	14	Nara
Wakayama										1												1	Wakayama
Tottori					1														1			2	Tottori
Shimane	1																					1	Shimane
Okayama			2		1	4	1	1				1		1			2					13	Okayama
Hiroshima	1													2						1		4	Hiroshima
Yamaguchi												1										1	Yamaguchi
Tokushima																							Tokushima
Kagawa										1	1	1										3	Kagawa
Ehime			1																			1	Ehime
Kochi								1														1	Kochi
Fukuoka	8	3	2	10	5	3	4	4	3	7	4	7	3	6	4	3	8	7	12	2	7	112	Fukuoka
Saga					1							1			3		2		1			8	Saga
Nagasaki			1						1		1		1							1		5	Nagasaki
Kumamoto	1			1																		2	Kumamoto
Oita	1						1															2	Oita
Miyazaki		1		2	3	1		1					1					1	1			11	Miyazaki
Kagoshima	1	5	2	3	2	5	3		2	3	1	1	6	1	3	3	7	7	3	4	3	65	Kagoshima
Okinawa	2	3	1		2	3	14	13	16	9	9	4	4	6	6	8	5	6	1	4	1	117	Okinawa
total	124	158	163	181	235	205	285	184	154	159	116	202	161	211	194	226	246	251	213	91	113	3,872	total

Fatal and non-fatal accidents mean fatal and non-fatal injuries and occupational diseases with work absence of 4 days and more. Data of 2011 year include fatal and non-fatal accidents caused by Great East Japan Earthquake in 2011.

Data sources: https://anzeninfo.mhlw.go.jp/user/anzen/tok/anst00.htm (MHLW, Japan)

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Fatal accidents in airline service in Japan in 1999-2021

airline service industry Code No.040103

Type of fatal accidents in airline service in 1999-2021

Type of accidents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Type of accidents
fall from height	1	1		1													1	1						5	fall from height
falling to same level																									falling to same
luming to sume level																									level
crash																									crash
struck by flying or																									struck by flying
falling object																									or falling object
collapse																									collapse
crashed by					1														1					2	crashed by
caught in/between					1																			1	caught
																									in/between
cut																									cut

the foot 1	-			-	-	-	-	 	-		 	-	 	 		_	-	-	-		
drown drown	injury to the sole of																				injury to the sole
Contact to high/low-temperature	the foot																				of the foot
Contact to high/low-temperature	drown																				drown
temperature	contact to high/low-																				contact to
Contact to harmful substance Receive Rec																					high/low-
Substance	temperature																				temperature
substance Image: Control of the control o	contact to harmful																				contact to
Section Sect																					harmful
explosion	substance																				substance
burst fire	electric shock																				electric shock
fire Richard R	explosion																				explosion
traffic accident (public road) 1 2 5 1 2 8 0 5 2 5 2 5 1 5 2 5 1 5 5 2 5 5 1 5 5 5 5	burst																				burst
road) traffic accident (others) 1 2 5 1 2 8	fire																				fire
traffic accident (others) 1 2 5 1 2 8 8 8 8 5 2 5 1 2 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	traffic accident (public																				traffic accident
traffic accident (others) 1 2 5 1 2 8 5 5 2 5 5 1 2 6 5 1 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	road)	1																		1	(public road)
reaction to motion/improper motion others 1	tueffic a said sut (ath sus)	1	2	_	1				_		_	1		2			1				traffic accident
motion/improper motion	trainc accident (others)	I	2	3			0		3	2	5	I		2		5				41	(others)
motion I <td>reaction to</td> <td></td> <td>reaction to</td>	reaction to																				reaction to
others 1	motion/improper																				motion/improper
unclassifiable unclassifiable unclassifiable	motion																				motion
	others	1																		1	others
total 4 3 5 2 4 8 5 2 5 1 5 1 6 2 51 total	unclassifiable																				unclassifiable
	total	4	3	5	2	4	8		5	2	5	1		3	1	6	2			51	total

Causal (L) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Causal (L) agents
machine																									machine
crane, conveying machine	3	2	5	2	4	8			5	2		5	1				2		6	2				47	crane, conveying machine
other equipment		1																						1	other equipment
temporary buildings, establishments																	1								temporary buildings, establishments
substance, material																									substance, material
load																									load
environment																		1						1	environment
others	1																							1	others
total	4	3	5	2	4	8			5	2		5	1				3	1	6	2				51	total

Causal agents (middle) of fatal accidents in airline service in 1999-2021

Causal (M) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2010	2020	2021	total	Causal (M)
Causai (iii) agents	1999	2000	2001	2002	2003	2004	2003	2000	2007	2000	2009	2010	2011	2012	2013	2014	2013	2010	2017	2010	2019	2020	2021		agents

engine																		engine
power transmission mechanism																		power transmission mechanism
woodworking machine																		woodworking machine
construction machine																		construction machine
metal manufacturing machine																		metal manufacturing machine
general machine																		general machine
mobile silviculture machine																		mobile silviculture machine
crane																		crane
conveying machine	1	2		1	1												5	conveying machine
vehicle	2		5	1	3	8		5	2	5	1		2	6	2		42	vehicle
pressure vessel																		pressure vessel
chemical facilities																		chemical facilities
welding equipment																		welding equipment

<u> </u>]															
kiln, caldron																		kiln, caldron
electric equipment																		electric equipment
human power machine,																		human power
tools																		machine, tools
tools	1																1	tools
other equipments,																		other
facilities																		equipments,
																		facilities
temporary buildings,																		temporary
establishments													1				1	buildings,
																		establishments
hazards, harmful																		hazards,
substances																		harmful
																		substances
materials																		materials
load																		load
																		natural
natural environment																	Į	environment
																		other causal
other causal agent																		agent
																	1	no causal
no causal agent																	 	agent
unclassifiable																		unclassifiable
	 	-		-	-	 		 	=	=	==	=	 	 	=	 	 	<u> </u>

total	4	3	5	2	4	8			5	2		5	1				3	1	6	2				51	total	
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Causal agents (small) of fatal accidents in airline service in 1999-2021

Causal (S) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Causal (S) agents
engine																									engine
power transmission																									power transmission
mechanism																									mechanism
circular sawing																									circular sawing
machine																									machine
band sawing																									band sawing
machine																									machine
wood planer																									wood planer
machine																									machine
hollow chisel																									hollow chisel
mortiser, wood																									mortiser, wood
borer																									borer
chamfering																									chamfering
machine, router,																									machine, router,
woodworking																									woodworking
milling machine																									milling machine
chain saw																									chain saw
other woodworking																									other woodworking
machines																									machines

leveling,												leveling,
transporting or												transporting or
loading machine												loading machine
excavating machine												excavating machine
foundation work												foundation work
machine												machine
hardening machine												hardening machine
demolition machine												demolition machine
vehicle for high lift												vehicle for high lift
work												work
other construction												other construction
machines												machines
lathe												lathe
drill press, milling												drill press, milling
machine												machine
grinding machine,												grinding machine,
buffing machine												buffing machine
power press												power press
forging pressure												forging pressure
hammer												hammer
shearing machine												shearing machine
other metal												other metal
manufacturing												manufacturing
machines												machines

centrifugal machine														centrifugal machine
mixer, grinder														mixer, grinder
roll machine (except printingroll machine)														roll machine (except printingroll machine)
injection molding machine														injection molding machine
food manufacturing machine														food manufacturing machine
printing machine														printing machine
industrial robot														industrial robot
other general power machines														other general power machines
felling machine														felling machine
mobile logging machine														mobile logging
skyline yarding machine														skyline yarding machine
other mobile silviculture machine														other mobile silviculture machine
crane														crane
mobile crane														mobile crane
derrick crane														derrick crane
elevator, lift														elevator, lift
	11		11	11								11		

cargo lifting																		cargo lifting
appliance																		appliance
gondola																		gondola
lumberyard																		lumberyard
equipment, logging																		equipment, logging
cableway																		cableway
simple skyline																		simple skyline
yarding equipment																		yarding equipment
other powered																		other powered
crane																		crane
truck																		truck
forklift																		forklift
railway equipment																		railway equipment
conveyor																		conveyor
loader				1													1	loader
straddle carrier																		straddle carrier
rough terrain hauler																		rough terrain hauler
other powered	1	2			1												4	other powered
conveying machines	ı	2															4	conveying machines
cars, bus,	1																1	cars, bus,
motorcycle	I																	motorcycle
railway vehicle																		railway vehicle
other vehicles	1		5	1	3	8		5	2	5	1		2	6	2		41	other vehicles
boiler																		boiler

		 	 	 ==	 ==	 							
pressure vessel													pressure vessel
other pressure													other pressure
vessels													vessels
chemical facilities													chemical facilities
gas welding													gas welding
equipment													equipment
arc welding													arc welding
equipment													equipment
other welding													other welding
equipment													equipment
kiln, caldron													kiln, caldron
industrial dryer													industrial dryer
other kiln, caldron													other kiln, caldron
transmission													transmission
electric power													electric power
facilities													facilities
other electrical													other electrical
equipment													equipment
human power													human power
cranes													cranes
human power													human power
hauling equipment													hauling equipment
human power													human power
machine													machine

hand tool														hand tool
ladder														ladder
slinging tool														slinging tool
other tools	1												1	other tools
other equipment,														other equipment,
facilities														facilities
scaffolding														scaffolding
timbering														timbering
stairs, landing stage														stairs, landing stage
opening														opening
roof, beam, haze,														roof, beam, haze,
crossbeam,														crossbeam,
principal rafter														principal rafter
working platform,									1				1	working platform,
boot board									<u> </u>					boot board
passage														passage
building,														building,
establishment														establishment
other temporary														other temporary
buildings,														buildings,
establishments														establishments
explosive substance														explosive substance
inflammable														inflammable
substance														substance

inflammable gas													inflammable gas
harmful substance													harmful substance
radiation													radiation
other hazards,													other hazards,
harmful substances													harmful substances
metal material													metal material
lumber, bamboo													lumber, bamboo
stone, sand,													stone, sand,
substance													substance
other materials													other materials
load													load
machine/equipment													machine/equipment
as load													as load
natural ground,									1			1	natural ground,
rock													rock
standing tree													standing tree
water													water
abnormal													abnormal
environment													environment
high/cold													high/cold
temperature													temperature
environment													environment
other environments													other environments
other causal agent													other causal agent

no causal agent	1																	1	no causal agent
unclassifiable																			unclassifiable
total	4	3	5	2	4	8		5	2	5	1		3	1	6	2		51	total

Workers age of fatal accidents in airline service in 1999-2021

Age	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Age
19 years old or less																									19 years old or less
20-29	1					1													2					4	20-29
30-39			3	1		3						2							1					10	30-39
40-49	1	2		1	2	2			2	1		2	1				1							15	40-49
50-59	2		2		2	2			1	1		1					2	1	2	1				17	50-59
60 years old or more		1							2										1	1				5	60 years old or more
total	4	3	5	2	4	8			5	2		5	1				3	1	6	2				51	total

Workers' number of workplace of fatal accidents in airline service in 1999-2021

Workers scale	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Workers scale
9 workers or less			1		2	2			2	2									1	2				12	9 workers or less
10-29	1				1	4			2										1					9	10-29
30-49				1		2			1								2							6	30-49
50-99		1	1									3	1						3					9	50-99
															$\overline{}$							\Box			

100-299		2		1	1					1			1					6	100-299
300 workers or more	3		3							1				1	1			9	300 workers or more
total	4	3	5	2	4	8		5	2	5	1		3	1	6	2		51	total

Month of fatal accidents in airline service in 1999-2021

Month	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Month
January						2																		2	January
February																	1							1	February
March	1	1	1		2	2											2							9	March
April					1				1															2	April
May	1		3																					4	May
June						1			1										1					3	June
July	1			2						2		3						1						9	July
August			1																	2				3	August
September		2										2												4	September
October	1				1				1				1											4	October
November									2										4					6	November
December						3													1					4	December
total	4	3	5	2	4	8			5	2		5	1				3	1	6	2				51	total

Prefecture	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Prefecture
Hokkaido					1																			1	Hokkaido
Aomori																									Aomori
lwate																									lwate
Miyagi																									Miyagi
Akita										2														2	Akita
Yamagata																									Yamagat
Fukushima																									Fukushim
Ibaraki																									Ibaraki
Tochigi																									Tochigi
Gunma																				2				2	Gunma
Saitama		3				1						2												6	Saitama
Chiba				1													1							2	Chiba
Tokyo	2				2	2			1			1	1				1	1	3					14	Tokyo
Kanagawa																									Kanagaw
Niigata																									Niigata
Toyama																									Toyama
Ishikawa																									Ishikawa
Fukui																									Fukui
Yamanashi																									Yamanas
Nagano						2													1					3	Nagano
Gifu																									Gifu

Shizuoka																	Shizuoka
Aichi		3		1					1			1				5	Aichi
Mie																	Mie
Shiga																	Shiga
Kyoto																	Kyoto
Osaka	1	1	1				3		1				1			8	Osaka
Hyogo																	Hyogo
Nara							1									1	Nara
Wakayama																	Wakayama
Tottori																	Tottori
Shimane																	Shimane
Okayama		1														1	Okayama
Hiroshima																	Hiroshima
Yamaguchi																	Yamaguchi
Tokushima																	Tokushima
Kagawa																	Kagawa
Ehime																	Ehime
Kochi																	Kochi
Fukuoka																	Fukuoka
Saga					3											3	Saga
Nagasaki																	Nagasaki
Kumamoto																	Kumamoto
Oita	1															1	Oita

Miyazaki																			Miyazaki
Kagoshima															1			1	Kagoshima
Okinawa																			Okinawa
total	4	3	5	2	4	8		5	2	5	1		3	1	6	2		51	total

Data sources: https://anzeninfo.mhlw.go.jp/user/anzen/tok/anst00.htm (MHLW, Japan)

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